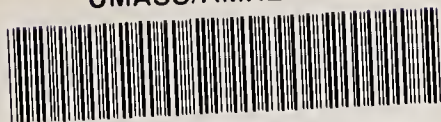


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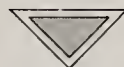
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METROPOLITAN DISTRICT COMMISSION

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ANNUAL
REPORT

FISCAL YEAR
ENDING JUNE 30, 1975



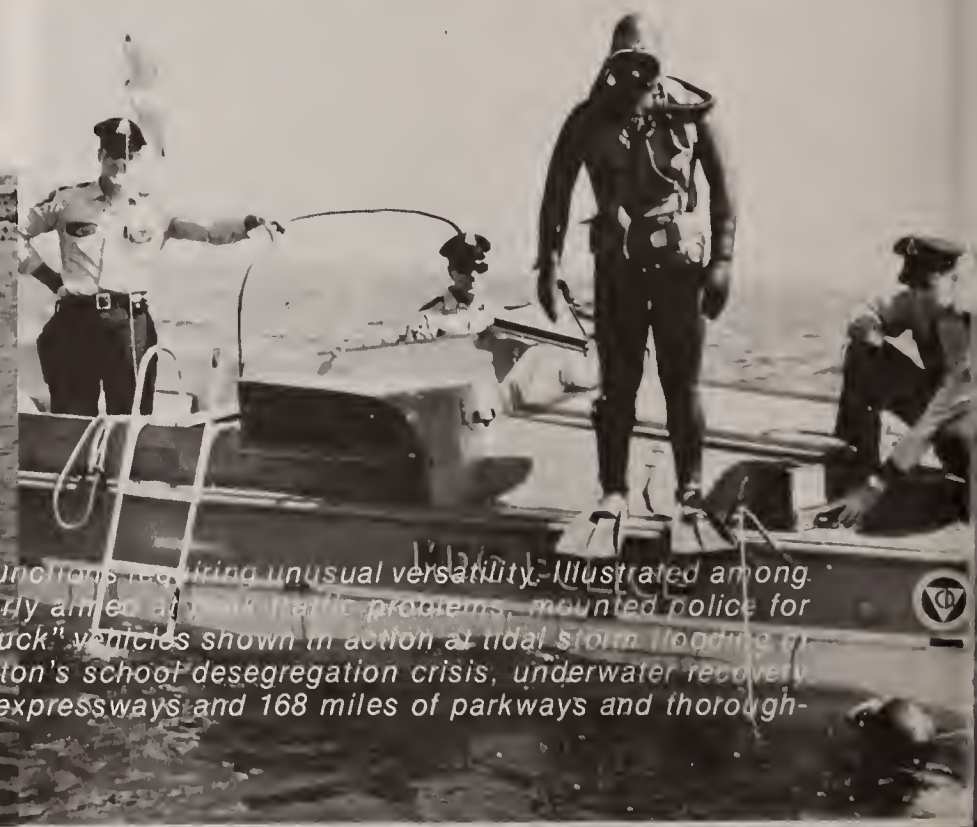
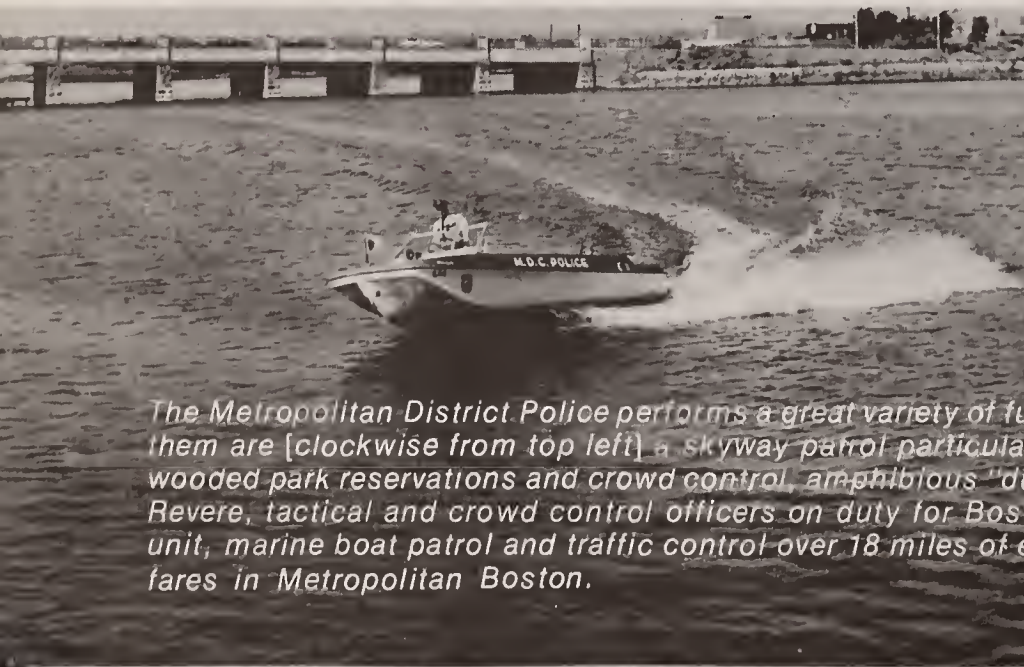
MDC Photo by Officer John Morris



MDC Photo by Officer Edward J. O'Neill



MDC Photo by Officer Edward J. O'Neill



The Metropolitan District Police performs a great variety of functions requiring unusual versatility. Illustrated among them are [clockwise from top left] a skyway patrol particularly aimed at peak traffic problems, mounted police for wooded park reservations and crowd control, amphibious "duck" vehicles shown in action at tidal storm flooding in Revere, tactical and crowd control officers on duty for Boston's school desegregation crisis, underwater recovery unit, marine boat patrol and traffic control over 18 miles of expressways and 168 miles of parkways and thoroughfares in Metropolitan Boston.

MICHAEL S. DUKAKIS
Governor

EVELYN F. MURPHY
Secretary of Environmental Affairs

WILLIAM J. BYRNE, JR.
Commissioner

Associate Commissioners

ANITA B. BANKS

PETER D. CORBETT

MARIANNA D. HANNIGAN

CONCHITA F. RODRIGUEZ

JOHN A. KESSLER, JR.
Secretary of the Commission

MARTIN F. COSGROVE
Chief Engineer

Executive Assistants

JOHN J. BEADES

JAMES T. O'DONNELL

JOHN F. SNEDEKER
Chief Administrative Assistant

JOHN WRIGHT
General Counsel

CONTENTS

Highlights	3
Pollution Control	4
Water Supply	8
Parks Development	12
Recreation Activity	16
Zoos	20
Historic Sites	22
Transportation	23
Metropolitan District Police	24
Organization	26
Finance	29
District Membership	Inside Back Cover
District Map	Back Cover

DIVISION DIRECTORS

EDWARD C. ANDERS
Director of Administrative Services

FRANCIS T. BERGIN
Chief Construction Engineer
Engineering Division

LAURENCE J. CARPENTER
Superintendent of Police

ALFRED F. FERULLO
Director of Environmental Quality

ALLISON C. HAYES
Director of Sewerage Division
Chief Sewerage Engineer

WILLIAM T. KENNEY
Director of Central Services

JAMES J. MATERA
Director of Water Division
Chief Water Supply Engineer

JULIA B. O'BRIEN
Director of Land Planning

MARTIN WEISS
Director of Environmental Planning

ROBERT B. WILLIAMS
Director of Parks and Recreation

(Incumbents as of 6/30/75)



The Commonwealth of Massachusetts
Metropolitan District Commission
20 Somerset Street, Boston 02108

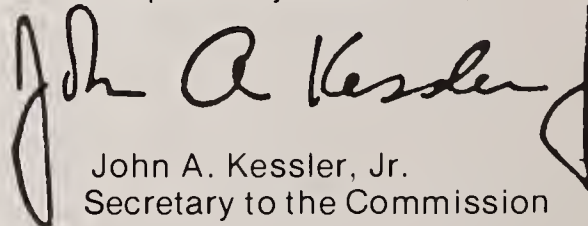
To His Excellency the Governor and the Secretary of Environmental Affairs:
To the Honorable Senate and House of Representatives:
To the Honorable Mayors, Selectmen, and Municipal Officials:
To the Public of the Metropolitan Parks, Sewer, and Water Districts:

The Metropolitan District Commission submits herewith a report on activities and other pertinent data for the fiscal year ending June 30, 1975, in accordance with the provisions of Section 100, Chapter 92 of the General Laws.

This document is designed to provide a broad overview of MDC's accomplishments during fiscal 1975 and projects planned for the near future in providing vital regional services for 2.5 million inhabitants of 54 cities and towns.

It is our hope that the report will bring greater understanding of MDC's efforts to satisfy basic needs, meet environmental goals and enhance the quality of urban life.

Respectfully submitted,

A handwritten signature in dark ink, reading "John A. Kessler, Jr." in a cursive style.

John A. Kessler, Jr.
Secretary to the Commission

Highlights of the Year's Activity

Broad advances in preparation of major improvements and actual construction to satisfy basic urban needs were achieved by the Metropolitan District Commission during the fiscal year ending June 30, 1975.

Projects and planning to enhance the quality of life for 2.5 million inhabitants of 54 Metropolitan Boston cities and towns covered a wide spectrum of regional services, including water supply, sewage collection and treatment, pollution abatement, recreation, parks, open space, zoos, law enforcement and movement of traffic.

The most ambitious attack on pollution in MDC history has emerged from an intensive inter-agency study of wastewater management in the Boston Harbor-Eastern Massachusetts Metropolitan Area. MDC heads the Technical Subcommittee conducting the study, which is recommending measures to meet long-range, clean-waters requirements stretching into the next century at a cost of \$855 million to be financed with Federal, State and MDC funds. Meanwhile, other pollution control steps are underway or imminent. Among them are sludge disposal, harbor tidewater rehabilitation, sewer interceptor pipelines to enlarge the system's capacity, major sewerage conduits, a treatment facility on the Charles River estuary and a new Charles River Dam.

An extensive planning and design effort has brought the park system to the verge of a large-scale expansion of recreation facilities. A construction start is slated for 1976 on the first stage of a Metropolitan Arena and Recreation Center incorporating a much-needed indoor schoolboy track, a new Mystic River park and the first of four pavilions in a year-round African Zoo designed to revitalize Franklin Park Zoo. An improvement program has begun on MDC's harbor islands as part of an inter-agency development of a Boston Harbor Islands Park. Underway also are multiphased projects for a major uplift and development of Stony Brook and Wollaston Beach reservations. Several smaller park developments were completed or well advanced during the year. Recreation activity was broadened considerably, particularly canoeing, cross-country skiing, sailing and nature centers. At Franklin Park Zoo, wildlife education programs have been instituted as living classrooms. In preparation for the Bicentennial, historic sites have been upgraded and new attractions installed.

Activation of the Water District's new 6.3-mile Dorchester Tunnel in November has improved distribution and pressure for 700,000 consumers and opened the way for building a \$17 million extension to augment local water supply for six potential members

south of Boston as needs arise within five to 15 years. North of Boston, a pipeline was completed linking Woburn, a new district member, with Spot Pond Reservoir, but service has been delayed until 1977 pending completion of pumping facilities. The district's consumption in excess of safe watershed yield persists, requiring additional supply sources. The situation has been eased temporarily by four years of above-normal rainfall giving rise to the prospect of refilling Quabbin Reservoir in 1976 for the first time in 15 years. A comprehensive study of future water supply sources, distribution and conservation techniques is continuing, aimed at anticipated needs for the next half-century. A facility to alleviate the problem of lead content in excess of Federal standards is scheduled for activation in June of 1976. The process will apply a chemical to control corrosion in outmoded household lead pipes used in some older neighborhoods. A fluoridation plant will be under construction also next year, with operation planned for 1977.

It was a busy year for Metropolitan District Police. Superimposed on its normal mission of law enforcement, traffic duties and security of extensive MDC property, the police force was deeply involved in the Boston school desegregation crisis, racial incidents and emergency assistance to other police agencies. Operations were sharpened by two new functions. A 62-man mobile unit known as Traffic Oriented Patrol Squad (TOPS) was formed primarily for enforcement at high-frequency accident locations and other traffic situations. The specially-trained officers are utilized as well for quick response to any emergency. An innovative aerial traffic reporting system was inaugurated using an aircraft and pilot furnished by a local radio station. Aboard the plane an officer reports to dispatchers on accidents, breakdowns and tieups and directs service and emergency units to trouble locations.

MDC membership now consists of 43 cities and towns with 2,219,000 residents in the Sewerage District, 34 communities and 1,939,000 residents in the Water District and 37 municipalities with 2,025,000 population in the Parks District. Twenty-four municipalities are members of all three districts, 12 are served by two districts and 18 by one district.

Total expenditure for the fiscal year ending June 30, 1975, was \$76,810,934, including \$4,251,973 for projects funded by state highway bond issues and other state-financed activity such as flood control work. This compared with \$72,644,389 in 1974, of which \$4,273,945 came from state-financed bond issues, rather than MDC District funding. The increase amounted to 5.7%.

\$855 Million Clean Waters Program Proposed

An intensive inter-agency study of methods for combatting pollution in the Boston Harbor-Eastern Massachusetts Metropolitan Area (EMMA), vitally affecting the Metropolitan Sewerage District, has reached its near-final stage.

The clean-waters program as presently recommended calls for projects on an unprecedented scale to meet needs for the next 30 years. Estimated cost at today's prices is approximately \$855 million funded from Federal, state and local sources.

A significant new approach is a recommendation for two advanced inland plants discharging highly-treated, recovered effluent into the middle reaches of the Charles River and the upper Neponset River at a cost of \$90.7 million.

The "satellite" plants would not only relieve the hard-pressed Nut Island treatment facility but the reclaimed clean water would also augment badly-needed river flow during dry weather periods.

Other major recommendations provide for alleviating combined stormwater-sewage overflows, particularly affecting Dorchester Bay and Charles River (\$270 million); expanding primary treatment at the Deer Island and Nut Island plants (\$92.5 million), upgrading the two plants from primary to secondary treatment as required by Federal law (\$236.7 million) and additional sludge disposal facilities for the two upgraded plants (\$28 million). Miscellaneous projects include interceptor lines, pumping stations and upgrading some existing facilities. Upgrading of the Deer Island and Nut Island plants from primary to secondary treatment would increase removal of organic waste from 30-35% to an estimated 85-90%.

The final report to be submitted in a few months will also present conclusions on construction priorities, an appropriate management agency for building, operating and maintaining wastewater facilities and methods of financing construction and operating costs.

More Independent MDC Considered

Among five management alternatives under consideration is a proposal for a strengthened, more independent MDC to administer a Metropolitan Sewerage District (MSD) expanded from 43 communities to 51.

Construction costs would be financed 75% from Federal grants, 15% from state funds and 10% from MSD municipalities which must also bear the operating expense. User charges at the municipal level will be

Participants in EMMA Study

The engineering-management wastewater study covers 109 municipalities in the Boston Harbor-Eastern Massachusetts Metropolitan Area (EMMA), including MDC's 43 cities and towns.

The MDC's Chief Engineer chairs the Technical Subcommittee conducting the study. Participants are the U.S. Army Corps of Engineers, U.S. Environmental Protection Agency, Metropolitan Area Planning Council and the Commonwealth's Division of Water Pollution Control, Department of Public Health and Office of State Planning. A Citizens Committee serves as advisor. Coordination and management are provided by MDC's Environmental Planning Division.

required by Federal grants, as well as a method of cost recovery from industrial sources.

A series of meetings for public information and input generated considerable interest and some controversy. Residents of the Needham-Wellesley-Natick-Dover area voiced concern about the site and environmental impact of the advanced treatment plant on the Charles River. Quincy residents in the vicinity of Nut Island expressed fear concerning disruption of their neighborhood and possible adverse environmental impacts from the recommended upgrading and expansion of the harbor plant for secondary treatment, which requires filling 26 acres of Quincy Bay.

However, a possibility has arisen for a Federal law change requiring only primary treatment for effluent discharged in ocean waters. MDC engineers have long doubted the need for secondary treatment prior to ocean discharge. As an alternative, outer harbor outfalls serving Deer Island and Nut Island would be extended further into deep water.

Before the program can be implemented additional public meetings will be held and approval will be required by the full Metropolitan District Commission and Secretary of Environmental Affairs. Other steps include funding authorization by U.S. Environmental Protection Agency and the Legislature and environmental assessment or impact statements for each of the 50 proposed projects.

Pending long-range measures anticipated from the



BOSTON SKYLINE AND HARBOR form a background in this recent aerial photo of Deer Island Sewage Treatment Plant. The primary treatment facility alleviating pollution in the harbor consists of (1) *administration building and laboratory*, (2) *pumping station*, (3) *power plant*, (4) *storage sphere for sewage gas used to operate plant*, (5) *sludge digestion tanks*, (6) *sludge and scum thickening tanks*, (7) *sedimentation and settling tanks*, (8) *chlorine building* and (9) *Winthrop Terminal headworks*. Not shown are pumping station to supply cooling water for equipment, water storage reservoir and garage.

EMMA study, MDC is continuing with a number of pollution control steps already in progress. Among them are sludge disposal facilities, harbor tidegate rehabilitation, new sewer interceptor pipelines to enlarge the system's capacity, major sewerage conduits and treatment on the Charles River estuary, a new Charles River Dam, jointly undertaken by MDC and U.S. Army Corps of Engineers, and consideration of several innovative techniques on the Charles.

An important Boston Harbor program — rehabilitation of defective tidegates to alleviate harbor pollution and prevent salt water intrusion into the sewerage system — has been virtually completed. The \$1.1 million project has already rehabilitated 86 inoperative tidegates in the Boston main drainage system and in Charlestown, with 14 remaining to be done in East Boston and Chelsea during the coming year. Faulty tidegates have permitted sea water to flow into sewers, causing flushing of sewage into the harbor on each tide cycle and intrusion of millions of

gallons of corrosive salt water daily through sewer lines leading to the Deer Island treatment plant. A substantial reduction of salt water has already improved plant operation and maintenance and the production of methane gas for energy use.

At Deer Island, arrangements have been made for experimenting with a high energy electron irradiation method of disinfecting sludge and wastewater. The two-year pilot program will be jointly financed by MDC, National Science Foundation and the State Division of Water Pollution Control.

Studies of methods to dispose of sludge from the primary treatment process at Deer Island and Nut Island plants, now discharged at outer harbor outfalls, have resulted in the recommendation of an incineration method incorporating waste heat recovery to generate electric power as the most practical from the viewpoint of cost benefit and environmental acceptability. A decision awaits review by the Federal Environmental Protection Agency.

On the Charles River, an ongoing improvement program is aimed at enhancing enjoyment of passive recreation, boating and fishing by producing a visually cleaner basin, reduced bacteria and more oxygen.

Pollutant Overflow Measures Taken

A major pollution source — overflows of combined stormwater and sewage — is being combatted by building large-capacity interceptor sewer lines and treatment facilities.

Approximately 20 miles of relief sewers have been built on the South Charles, while a key North Charles interceptor in Cambridge is in progress at an estimated total cost of \$16.8 million. The third of a four-phased program on the North Charles was completed in 1975, with the final stage scheduled to start next year. The entire sewer line containing pipes as big as 8½ feet in diameter will stretch three miles from Main Street to the vicinity of Mt. Auburn Hospital.

The interceptors on both shorelines were designed to enlarge existing capacity carrying wastewater to Deer Island and tie in with the four-year-old Cottage Farm Stormwater Treatment Station near B.U. Bridge.

During storms, the Cottage Farm prototype plant intercepts and treats overflows of combined sewage and stormwater from 26 discharge points on both banks of the basin, and five more overflows will be linked in the future. The process provides for screening, settling and chlorination before discharging effluent from holding tanks into the river and the disposal of pollutant solids into sewer lines for treatment at Deer Island. In 1975 the plant was activated 33 times during storms, 11 of which were entirely contained by the facility with no discharge to the river. A total of 463 million gallons was diverted to the station for processing.

A similar installation will be built in Cambridge as an integral facility of the \$23 million Charles River Marginal Conduit Project aimed at pollution abatement in the lower basin. The program will also eliminate pollutant overflows in the one-half mile extension of the basin between the existing Charles River Dam and the new dam, currently under construction near the Boston & Maine Railroad station. The beneficial effect will be felt, too, in Boston Harbor.

The first \$3.6 million phase scheduled to begin this fall provides for an eight-foot-diameter force main to discharge treated effluent from the projected station into the harbor below the new dam, regardless of tide level. Another 18-inch force main will carry screenings and sanitary sewage from the station to the Charlestown interceptor for treatment at Deer Island.

The storm detention and treatment plant is planned as the second phase, slated for a construction start in 1976. This will be followed by the final stage consisting

Crackdown on Illegal Dumping Nets \$100,000 Sewerage Income

A crackdown on illegal use of the MDC sewerage system for disposing of septic tank and cesspool waste originating outside the Sewerage District has netted an annual income of \$100,000.

Investigation of "outlaw" dumping by disposal firms resulted in temporary agreements with 10 non-member communities for compensation based on per capita charges for non-sewered population within the municipalities. Several other contracts are being negotiated. The arrangement runs through 1979 to allow sufficient time for the communities to reach a permanent solution for disposal of local septage sewage.

of large interceptor sewers for diverting overflows from Boston, Cambridge and Somerville marginal conduits to the treatment plant. Federal financing will cover 75% of the cost, the state 15% and the Sewerage District 10%.

New Charles River Dam

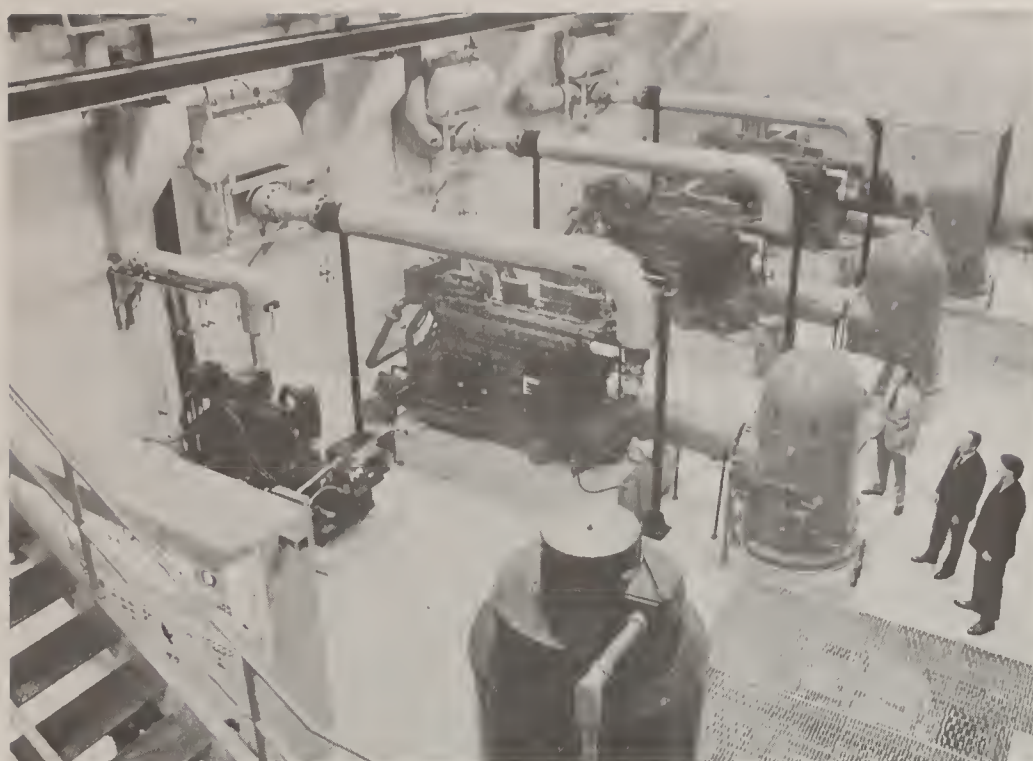
When the new Charles River Dam is completed by 1978, it will greatly reduce the serious pollutant effects of salt water intrusion into the basin which now flows through the existing dam and boat lock built in 1908. The saline layer, devoid of oxygen and highly polluted, remains in stratified form, preventing vertical mixing and aeration and stifling fish and plant life. Plans are underway to remove the accumulated stagnant layer on the basin bottom.

The new dam incorporates six large pumps for flood control, three locks for commercial and pleasure craft, a fish ladder for access of anadromous fish to the river and accommodations for a police boat patrol. The \$41 million project is being built by U.S. Corps of Engineers in cooperation with MDC, which contributes \$8.7 million of the cost.

Innovative instream methods of river cleanup are also being tested or under evaluation, including the Storrow Lagoon pilot plant utilizing a chemical technique for removal of color and pollution and an aeration experiment for localized treatment.

Further improvement is anticipated from projected treatment facilities at a half-dozen locations on the upper Charles beyond MDC jurisdiction.

Three large-scale sewerage projects totaling \$11.8 million are in the design stage. They are (1) expansion of the Reading pumping station and increasing the



OVERFLOWS OF COMBINED STORMWATER AND SEWAGE are a major target of pollution control measures for the Charles River Basin. Among them are a massively-equipped storm detention and chlorination station in Cambridge above B.U. Bridge and this typical 8-foot diameter sewer pipe used in the ongoing interceptor line program to enlarge the sewerage system's capacity. A second detention-chlorination station is scheduled for the lower basin.

capacity of sewer lines serving Reading and Wakefield by 14 million gallons per day (mgd) at a cost of \$3 million; (2) a relief sewer accommodating 2.5 mgd additional flow to relieve an overloaded line serving sections of Brookline, Newton and West Roxbury, \$5.4 million; (3) enlarging sewer line capacity under Weymouth-Fore River for projected peak flows up to 63 mgd from South Shore communities, \$3.4 million. At the latter location, a \$602,500 dredging project was completed this year to deepen the channel over an existing 48-inch sewerage line siphon for accommodating larger shipping vessels, as required by Federal regulations.

An industrial waste survey program initiated in 1974 to determine adherence to MDC and Federal requirements is still in progress. Of 518 inspections in a pilot area, 28 industries were found to be in violation of MDC rules and are presently pre-treating, implementing pre-treatment and/or modifying their systems to comply with standards.

Flood control work in progress, in addition to the new Charles River Dam, is highlighted by a \$5.6 million pumping station at Amelia Earhart Dam scheduled for completion in 1976. The installation is designed to enlarge the dam's limited capacity to cope with major storms, especially during high tides. A fish ladder has been incorporated to facilitate passage of anadromous

fish to the river upstream from the dam.

A \$417,000 pumping station has been substantially completed on Broad Sound Avenue, Revere, the scene of heavy damage in recent years from a combination of storms and high tides.

In Quincy, an \$827,000 project for dredging Black's Creek off Quincy Shore Drive and flood control culvert work affecting Furnace Brook Parkway and Southern Artery areas is in its final stages. Benefits will include improved boating when the work is finished next spring.

Within a few months, a \$1.1 million uplift will be started on historic Mother Brook, the first canal dug in America by English settlers in 1640, designed originally to provide industrial power by water diversion into Mill Creek from the Charles River. The improvements will be made in Boston and Dedham along a 1½-mile stretch of the 3½-mile waterway, which empties into Neponset River, primarily for protecting built-up areas from flood damage and developing passive recreation, such as walkways, fishing and boating. Various contracts will provide for general cleanup, restoration of two ponds, dredging a portion of the brook, reconstruction of two bridges and repairs to three dams. In preparation for the development, nearly 21 acres of shoreline property have been acquired since 1969.

Huge Tunnel Expands Water Distribution System

The huge \$19 million Dorchester Tunnel was activated in November as the largest expansion of the Metropolitan Water District's distribution system in 13 years.

The 10-foot diameter tunnel extending 6 1/3 miles from Chestnut Hill at the Brighton-Brookline line to Dorchester Lower Mills was designed to meet growing needs and boost water pressure for 700,000 present consumers in the Southern High and Extra High Service systems. Its capacity of 300 million gallons per day (mgd) supplements existing pipeline capacity of 105 mgd for a large area of Boston and Brookline and for Quincy, Milton, Canton and Norwood.

Completion of the facility also clears the way for a \$17 million link to augment local water supply for six potential members south of Boston. Field work and design are well underway on facilities to serve Avon, Braintree, Holbrook, Randolph, Stoughton and Weymouth and provide an additional supply for Canton, presently a partial user member. Studies have indicated these communities will require a supplementary source within five to 15 years. Demand by the year 2000 is expected to average 27 mgd with a maximum of 56 mgd.

A construction start on the extension project is now scheduled for 1977 involving 15 miles of new water mains ranging from 18 to 48 inches and a pumping station in the Randolph section of Blue Hills Reservation, with the Blue Hills Reservoir serving as a major distribution facility. Target date for completion has been set for 1980. The water system extension was authorized by 1974 funding legislation.

District Expanding North of Boston

North of Boston, a \$1.4 million pipeline was completed, linking Woburn, a new district member, with Spot Pond Reservoir. The project was designed with sufficient capacity for eventual extensions to Reading and North Reading and also to supplement existing distribution lines serving Stoneham and Wakefield, both present members of the Water District.

Service to Woburn has been delayed until 1977 by complications in providing pumping facilities which arose when bids exceeded available funds for a new station on the reservoir's westerly shore off the Fellsway. Another factor was a \$1.5 million fire which ravaged the Spot Pond station in January, requiring extensive reconstruction. It was then decided to abandon the proposed Fellsway site and instead build a one-mile connection to the Spot Pond pumping station and combine the new and old facilities. Although the blaze knocked out pumps at Spot Pond,

Water Purity, Recreation In Conflict at Reservoirs

The never-ending conflict between safeguarding purity of drinking water and recreational encroachment on reservoirs clashed head-on as the 1975 summer season approached.

Flagrant violations involving waste matter from people and pets, litter and trash and even swimming culminated in barring the public from eight distribution reservoir areas, accompanied by an outcry from joggers, picnickers and pet owners. A vigorous crackdown piled up scores of arrests by MDC Police before the problem was under control.

Protests were particularly vehement at Chestnut Hill Reservoir where changes are being considered to allow limited recreational use of nearby grounds, beyond the reservoir fence, without adversely affecting water supply.

alternate provisions and emergency repair work averted any serious disruption of service.

Construction plans in the northern system also call for a new distribution pipeline linking Spot pond pumping station with the Fells Reservoir, which is supplied directly from Quabbin and Wachusett reservoirs via the City Tunnel Extension. Utilizing the Fells elevation, 100 feet above Spot Pond, will substantially reduce pumping costs, particularly in servicing the Woburn extension. The combined expenditure, including fire damage at Spot Pond and additional pipelines, is estimated at \$12 million.

Reflecting a trend of steady growth of the Water District, Woburn has become the 33rd member, followed last year by Wellesley. Both communities are designated as partial users, encouraged to rely as much as possible on local water sources.

The two municipalities were among communities listed in an inter-agency study of future water demand indicating a rise from the current consumption of 313.5 mgd to 475 mgd by 1990. These projections were based on supplementing local sources of 42 communities in addition to the 32 district members presently drawing MDC water and 10 others beyond the district served under special agreements. The latter area extends into



QUABBIN RESERVOIR, stretching 18 miles in length, provides most of the water District's supply. Its surrounding wide-ranging forests, hills and islands retain an unspoiled wilderness setting.

(Aerial photo by Jack Maley, MDC)

Central and Western Massachusetts where the town of Amherst is also considering an application for supply.

Under law, MDC must admit to the Water District any community within 10 miles of the State House and any other municipality within 15 miles which the Commission "can reasonably supply." Nine of the 42 cities and towns are within 10 miles, 23 in the 10-15-mile zone and 10 beyond 15 miles with no option other than MDC for future supply.

New Water Supply Sources Sought

District growth and continued consumption in excess of the system's average safe yield of 300 mgd has intensified the urgency for a new supply source in the next decade. Water use soared to 321 mgd in 1971 — a record high — and has since diminished gradually to 313.5 mgd in 1975. Reversal of an upward trend in consumption was attributed to lessened summertime demand induced by four successive wet years.

For meeting short-range needs, preparations have been made to flood-skim about 1% of the excess freshet flow of the Connecticut River under environmentally-related restrictions to feed into the district's principal source at Quabbin Reservoir.

The diversion would bolster MDC's annual supply by an average of 72 mgd — nearly 25% of the current safe yield. The plan calls for a 10-mile aqueduct between Quabbin and the Northfield Mt. pumped storage

reservoir built by Northeast Utilities for hydro-electric power production. Implementing the diversion has been delayed by negotiations with Northeast Utilities on provisions for utilizing the facilities.

Meanwhile, nature has provided some leeway in augmenting the supply for Quabbin, which has been below capacity since 1961 — the beginning of a six-year drought plunging the 39-square-mile reservoir to 45% of capacity in 1967. Above-normal precipitation in four successive years has nearly refilled the reservoir, with a good prospect of 100% elevation in 1976. Precipitation was 10.3 inches in excess of the 45.3-inch annual average in 1972, 7.5 inches above average in 1973, 1.8 inches in 1974 and 13.7 inches in 1975. Precipitation had been below average for nine of the 12 years preceding 1972.

Long-Range Study Continuing

Despite the current favorable outlook, engineers remain apprehensive about maintaining Quabbin at capacity during an extended period of normal or sub-normal rainfall.

In another approach to water supply solutions, a comprehensive study looking ahead at least 50 years is continuing. The program is being conducted by the Metropolitan Water Supply Development Committee, coordinated by MDC and including representatives of U.S. Army Corps of Engineers, State Department of

Restoration Set for Church That Refused to Fade Away

The church that refused to die has been given a new lease on life.

Restoration to the status of a "safe ruin" will begin next year on the lovely old stone edifice on the shore of Wachusett Reservoir in West Boylston at a cost of approximately \$87,000.

No mortal hand had dared to raze the near-century-old former Baptist church since it was acquired in 1902 among property takings for the reservoir. Public protest saved the edifice when it was threatened with demolition as a safety hazard. It survived even after two walls and the roof collapsed last year into the rubble of its remains. Townspeople fighting for its existence succeeded in having the structure designated as a national historic landmark in 1973.

Fund-raising has begun by the West Boylston Historical Commission to finance various finishing touches. And the old stone church is now destined to survive as a symbol of an era that once lived where Wachusett now reigns.

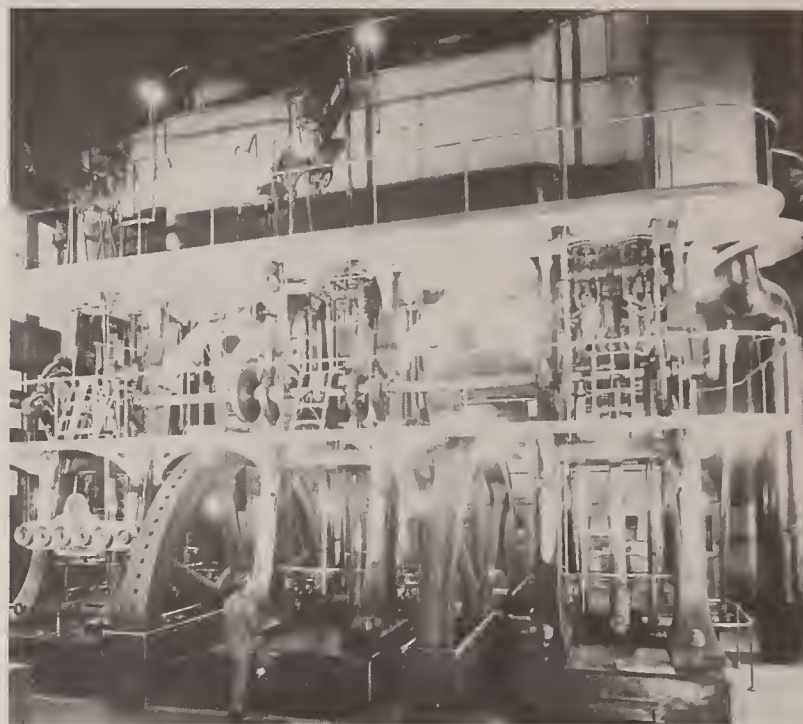
Public Health, State Water Resources Council, Metropolitan Area Planning Council and public members.

The study scope embraces distribution facilities, methods of upgrading and expanding the system, new water supply sources and examination of water use, with emphasis on reducing waste and developing conservation techniques.

Tentative preliminary findings have been submitted on an intensive study of the upper Sudbury River watershed to determine potential supply from the 75 square mile area by flood-skimming and treating freshet flows. MDC's Sudbury Reservoir presently draws from a 22 square mile area.

The first phase report, subject to confirmation in a more detailed second phase study, has indicated proposed watershed management can yield a range of 29.4 mgd to 76.7 mgd without adversely affecting the environment, other water supplies presently in the watershed or downstream requirements. This quantity exceeds the present deficit in the system's safe yield. Next step is a review of the draft report by all agencies involved and further public input, prior to final conclusions.

A second report has produced detailed data on water usage by domestic, industrial, commercial and public consumers to discover significant deviations as a key to potential conservation.



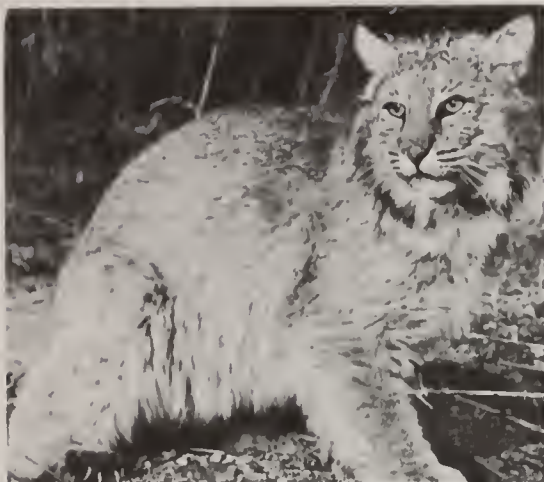
LEAVITT STEAM PUMPING ENGINE at Chestnut Hill Pumping Station is the first equipment designated as a National Historic Mechanical Engineering Landmark. Installed in 1894 and retired in 1928, the engine is regarded by Smithsonian Institution as an outstanding example of steam engineering.

Although per capita domestic water use was found to be about equal to the national average, the report suggested several conservation methods. Citing significant leakage loss in municipal distribution systems, the report recommended that MDC encourage communities to initiate detection and repair programs. Several municipalities have already begun detection studies and corrective measures. Among other conservation proposals were a public education campaign, replacement of old water-wasting appliances, fixtures and plumbing, efficient use and reuse of industrial water and more prudent public use such as sewer flushing, street sweeping and flushing of mains.

MDC had already filed legislation last year to aid district members in locating sources of water loss and financial assistance for remedial construction. Another legislative proposal sought authority to establish regulations on water use and to require repeal of discounts for quantity use. Both measures are still pending. A trend has been noted in the Water District toward use of flat rates to encourage conservation. One community has boosted charges as volume increases as a disincentive to excessive use.

Lead Control, Fluoridation Set

Corrective action is being taken on the problem of corrosion in outmoded lead pipes still in use by homes in some older neighborhoods. A facility for injecting a



RECREATION AND WILDLIFE REFUGE are among resources at Quabbin Reservoir. Wide range of wildlife includes bobcat and bald eagle, while fishing and picnics in unspoiled, natural environment are popular.

(Photos by Jack Swedberg)

zinc compound to offset the corrosive effect of MDC's water on lead pipes will be completed in Southboro next May. Action was taken following sampling in Boston, Somerville and Cambridge households indicating lead content of drinking water in excess of Federal standards and an association with the amount of lead in the blood stream of occupants. The U.S. Environmental Protection Agency reported, however, that the problem was not with MDC water, described as "one of the finest serving an urban area anywhere in the country," but in local municipal delivery systems and plumbing in individual homes. Installation and equipment will cost \$65,000 and annual chemical expense about \$35,000.

A construction start on a \$1 million fluoridation plant is scheduled for next year, with activation due in 1977. Anti-corrosion and fluoridation will be combined at the Southboro shaft linked with the tunnel system carrying water to the district from Quabbin and Wachusett reservoirs. Fluoridation is expected to save \$7 million annually for persons under the age of 20 by reducing tooth decay, according to an estimate by Massachusetts Dental Society. Its use on a district-wide basis will provide savings, too, for member communities which are planning or already have installed local fluoridation systems.

In a major improvement at Chestnut Hill pumping station, two gas turbine pumping units were activated at a cost of \$511,000 replacing steam-driven equipment dating back to 1911. The gas turbines being used for the first time in the MDC system will reduce maintenance cost, occupy far less space and provide more flexibility in the high pressure system.

For the second year, new legislation allowed the



Water District to operate on a pay-as-you-go basis, replacing the costly long-term financing of annual deficits as provided by law since 1945.

In the first-year adjustment for 1974, the \$120 rate per million gallons set by legislation in 1962 rose to \$200 in order to equalize receipts with the cost of debt and operation. For 1975, the rate was set at \$240 but projections indicated that the charge to cities and towns would stabilize next year at this level. The latest increase was attributed to the inflation spiral, additional debt expense and transfer of Engineering Division costs from construction bond funds to an annual appropriation, as mandated by legislation.

Now that deficit borrowing has been ended, it is anticipated that the new pay-as-you-go policy will level off and eventually decrease the system's outstanding debt of \$137.7 million. A total of \$109.8 million has been borrowed to cover deficits since 1945 of which \$60.2 million is still outstanding.

Parks District On Verge Of Large-Scale Expansion

MDC is on the threshold of a massive expansion of recreation facilities and a widespread uplift of the parks system to provide a variety of opportunities for leisure-time enjoyment and athletic activity.

A construction start is planned in 1976 for the first stage of a diversified Metropolitan Arena and Recreation Center incorporating a much-needed indoor schoolboy track, creation of a new Mystic River park and the first of four pavilions in a year-round African Zoo, designed to revitalize Franklin Park Zoo.

Significant improvements have started on MDC's harbor islands in conjunction with an inter-agency program for establishing a Boston Harbor Islands Park. Already underway are multi-phased projects for a major facelift and development of Stony Brook and Wollaston Beach reservations. A half-dozen smaller park developments were completed or well advanced during the year.

Recreation programs in the parks system were broadened considerably, particularly canoeing, cross-country skiing, sailing and nature centers.

Track Highlights Big Recreation Complex

The long-awaited indoor schoolboy track serving the Parks District has entered its final design stage as the centerpiece of a \$7 million diversified Metropolitan Arena and Recreation Center on the Neponset River shoreline in Dorchester, near Southeast Expressway.

Described as MDC's largest and most varied recreation complex, the project is scheduled for completion of the first phase in the fall of 1977. Initial stage of the 45-acre development provides for a 5000-seat, multi-use indoor track structure and a 2000-seat ice-skating forum, linked by a core service building. Exterior work includes six lighted basketball courts, landscaping, roadways, lighting and parking.

The sprawling 74,250 square foot track structure will accommodate a complete range of competitive track events and also basketball, tennis, volley ball, badminton and handball. For off-season activity, the ice forum is designed for conversion into three tennis courts. The central core building houses locker rooms, concessions and rooms for exercise equipment, skate sharpening and community gatherings.

Rounding out the complex, the second construction phase, presently under design development, provides for lighted tennis courts and other outdoor activities, such as softball, soccer, bicycle paths, picnic areas, fishing piers, pleasure boat-launching ramp and various riverside improvements.

The indoor track project culminates 10 years of delays caused by problems at the original Cleveland Circle location in Brighton, alternate site selection,

land acquisition, financing and design work. Meanwhile, loss of various facilities has dealt a setback to schoolboy track — a pressing need now on the verge of fulfillment.

Mystic River Park Underway in 1976

Construction will begin early in 1976 on a \$3.2 million first phase of an exciting new park reservation on the Mystic River Basin shoreline in Medford and Somerville, near Route 93 expressway, the Fellsway and Mystic Valley Parkway.

The proposed Mystic River Park, ultimately costing \$7 million, will transform an estuary wasteland into a 200-acre panorama of park, marine and recreation facilities. The site borders a 525-acre fresh water basin converted from unsightly, odorous salt water tidal flats by the Amelia Earhart Dam in 1966.

The first of two phases on the Medford shoreline extends from the MBTA bridge near Earhart Dam to the Fellsway and then along Mystic Valley Parkway to the Hormel Stadium sports complex opposite Route 93. This phase includes an additional area on the up-river side of the Hormel athletic complex and another stretch on the Somerville riverfront between the MBTA bridge and the Fellsway.

The 100-acre initial project features 70 acres of passive parkland, an island wildlife sanctuary, a wetland wildlife conservation area and planting of thousands of trees and shrubs. Facilities will include two fishing piers, a boat landing, bicycle and foot paths, picnic tables, a lookout tower and parking. The segment on the up-river site adjacent to the Hormel complex will contain four tennis courts, Little League and soccer fields and a site for an historic house, supplementing existing Little League and rugby fields.

The marine concept is aimed at encouraging large power boats to use the outer basin near Earhart Dam, presently the site of two yacht clubs, and the inner basin for sailing, rowboats, canoes and small power craft. An MDC sailing pavilion and dock within the inner basin was completed last year on the Somerville shore, near Route 93, along with a new park.

A major undertaking in the first phase is an extensive soil restoration program dealing with salt-laden silt from previous dredging and from shifting the river course for Route 93 construction.

Emphasis in the second phase will be parkland development of the west shore of the Malden River from its confluence with the Mystic, including a boat launch and extension of the phase one bicycle and foot paths. Plans also call for a park and fishing pier in a small peninsula alongside Route 93 in Somerville, near Lawrence Bridge.



INDOOR HIGH SCHOOL TRACK, as shown in artist's conception, is the centerpiece of the projected Metropolitan Arena and Recreation Center on Neponset River in Dorchester. The multi-use track structure is at left and an ice-skating forum at right, linked by a core service building.

Harbor Islands Park Development

A milestone in the development of a Boston Harbor Islands Park was shared by MDC's Georges and Lovell's islands in a first-phase improvement program celebrated by week-long events during the 1975 summer season.

New facilities and activities were inaugurated in a joint undertaking with the Department of Environmental Management (DEM), spearheaded by the Executive Office of Environmental Affairs.

A highlight was a free seasonal "water taxi" service linking Georges with nearby Lovell's and DEM's Gallops Island to provide easy public access to newly-developed recreational opportunities. The week's program also featured free boat trips from Boston to Georges furnished to community groups by two commercial lines, guided tours and nature walks. For many visitors this was an introduction to the natural beauty, recreational resources and the great potential of 30 harbor islands which the state is seeking to develop.

At Lovell's, MDC provided dock repairs, beach improvement, lifeguard protection, picnic facilities, camp sites, a guided interpretive tour and removal or fencing of safety hazards. Gallops was designated for day use, with a new pier, docking floats, family picnic areas, interpretive trails and beach areas.

The lure of harbor islands has been amply demonstrated by a continuing growth spiral of visitors drawn to Georges Island by its scenic appeal and historic Fort Warren. Police estimated attendance at 184,000, nearly 25,000 above 1974, including 528 group permits covering almost 25% of the visitors. A new attraction was an audio-interpretive system utilizing wireless headsets to relate the fort's role in defending the harbor in all American wars and its use as a Civil War prison for Confederate civil and military personnel. Visitors also enjoyed picnic areas, docking facilities

and indoor and outdoor outing accommodations supervised by Metropolitan District Police and Parks and Recreation personnel. Transportation was furnished by three harbor cruise boat lines and private craft.

Nearby Lovell's Island drew an estimated 45,000, while Peddocks Island, off the Hull shore, was visited by 1450. Peddocks, acquired in 1970, is available only on a permit basis, mostly for camping and picnics, pending development of public facilities.

Another harbor-oriented project is underway at Stodders Neck in Hingham, a 22-acre peninsula on Weymouth Back River, acquired in 1972. A \$220,000 contract developing a passive recreation concept calls for walking paths, picnic areas, parking, landscaping, boat landing and a promontory offering a spectacular view of Hingham and Quincy bays and Boston Harbor.

Uplift for Stony Brook Reservation

A \$3 million facelift and development program has begun at the 470-acre Stony Brook Reservation in the heavily-populated West Roxbury-Hyde Park section of Boston.

A wide variety of athletic, park and passive recreation facilities is being installed, highlighted by a specially-designed area for the handicapped and another for elderly people.

The first phase has been substantially completed in the Turtle Pond section at a cost of \$310,000, including two fishing piers, picnic grounds, improvement and expansion of the hiking and bicycle path system, two parking areas, planting of 480 trees and changes at the Dedham Street-Turtle Pond Parkway intersection.

Work on the next phase will be underway in the spring of 1976 on two contracts totaling \$1.7 million, providing for rehabilitation and new facilities at the adjoining Kelly and Gelewitz fields as well as the



PEQUASSET PARK has been completed on a former dump site on the Charles River shoreline in Watertown. The 4½-acre pocket park is an example of the ongoing program for reclaiming and beautifying the riverfront.

(Watertown Press photo by Martin Gavin)

Factory Hill playground. The Kelly fieldhouse is slated for enlargement and major repairs and the softball and baseball fields will be rebuilt and equipped with new bleachers and an irrigation system. An overlook park has been designed for the elderly as a viewing area, equipped with benches and game tables. Walkways, play equipment, benches and lighting will dress up Factory Hill playground. A new River Street athletic field and bleachers are also specified.

In succeeding phases, construction of the John F. Thompson Center for the Handicapped and a park maintenance structure are planned. The Thompson facility will consist of a central building, nature trails with descriptive environmental exhibits in Braille, play and picnic areas and an outdoor classroom.

A \$1 million grant by the U.S. Department of Interior's Bureau of Outdoor Recreation is anticipated for the Stony Brook development..

Major restoration of natural environment and other improvements are proceeding toward completion during the summer of 1976 at the nearby five-acre park embracing Francis D. Martini Music Shell on Truman Highway, Hyde Park. The \$176,000 project provides for enlarged stage capacity, floodlighting and a natural grass amphitheater to replace concrete seating and blacktop surfacing. A further natural restoration will come from reclaiming one-half of a 100-car parking area and extensive planting of trees and shrubs. Other improvements include relocation of two lighted tennis courts and a lighted basketball court, a new picnic area and lighting standards. A \$90,950 reimbursement has been granted by the U.S. Bureau of Outdoor Recreation.

A multi-purpose improvement program along Quincy Shore Drive is nearing the final phase of a \$2.4 million uplift of the popular Wollaston Beach Reservation. Initial work completed in 1974 was a \$875,000 culvert-type structure replacing the Sgt. Greenberg



NEWEST SKATING RINK at waterfront park in Boston's North End offers striking harbor views from large windowwalls.

(MDC Photo by Jack Maley)

Bridge at Black's Creek, incorporating tidegates to control tidal action and maintain upstream water level. Near completion is an \$847,000 contract for dredging Black's Creek to improve tidal flow and deepen the tidal basin for boating and installing a culvert under Southern Artery to alleviate flooding. An early start is scheduled on a \$967,644 project to reconstruct a 3000-foot stretch of Shore Drive in the same vicinity, incorporating a median strip, sidewalk, bicycle path, pedestrian lights and recreational facilities at Caddy Park, known also as Treasure Island. Nearby historic Moswetuset Hummock is slated for landscaping, a new rustic bridge and other improvements under a separate \$40,000 contract to be awarded in the fall.

Parkland Development on Charles

The Charles River's popular appeal for recreation and relaxation has spurred an extensive, continuing program of beautification, development and acquisition, emphasizing a return of the riverbank to parkland.

An outstanding example was the blossoming of Pequasset Park, a 4½-acre "pocket park" on a former shoreline dump site adjacent to the Watertown skating rink. The newly-completed \$258,343 project contains four tennis courts, picnic area, walkways, landscaping with 240 trees and shrubs and parking.

Similarly, the newly-acquired, four-acre Old Mill tract in Needham was developed for low-keyed recreation along a 675-foot strip of riverbank. The area, incorporating Cochrane Dam and renamed Village Falls Park, was completed at a cost of \$63,089, equipped with facilities for walking, picnicking, fishing, canoe launching, landscaping and retaining an existing bridle path.

Preliminary planning is in progress for restoration of Riverside Park in the Newton-Weston area, featuring



Photo by Robert F. George



Herald American Photo by Stanley Forman

CROSS-COUNTRY SKIING AND BICYCLING are fast growing activities in the Parks District. The winter sport has great popularity at Blue Hills Reservation and the newly-opened area at Martin Golf Course in Weston. This bicycling scene on Memorial Drive is part of a 16-mile bikeway network on both sides of the Charles River, which is being expanded to a 25-mile scenic system.

a revival of canoeing and passive recreation. A three-acre tract at a critical location on the Newton shoreline facing the Riverside site has been acquired to provide the proposed park development with a natural scenic background.

Down-river, work began on a major \$256,857 restoration and upgrading of the Magazine Beach recreation area in Cambridge. The beautification project stresses extensive landscaping, shade trees, a grass and tree-covered overlook of the river, earth forms simulating fortifications used in the Revolutionary War and removal of a bisecting roadway. Other features are installation of drinking fountains, picnic tables and play equipment, and reconstruction of two existing ball fields.

On the Brighton shoreline along Soldiers Field Road, planning is proceeding for development of Herter Park, formerly Metropolitan Boston Arts Center, and renovation of the former Institute of Contemporary Arts building and the outdoor theater. The facilities will be operated by the Christian A. Herter Center, named in honor of the late Massachusetts Governor and U.S. Secretary of State. The center has been designated for environmental, cultural, recreational and educational uses. Urban gardening demonstrations and ethnic cultural events were among activities during its first season in 1975.

A continuous riverside bikeway from Watertown to Boston was completed for recreation-minded and commuting bicyclists under a \$163,000 contract for

missing links or improvements on Greenough Boulevard, Memorial Drive, Cambridge Parkway and across the river to Charles River Dam in Boston. The 16-mile network presently available will be expanded to a 25-mile scenic bikeway system on both sides of the Charles. Next phase, scheduled for 1976, will extend the Esplanade bikeway one mile along Soldiers Field Road, Boston, between B.U. and River Street bridges. Two additional projects on the Boston side call for improvement of the existing bicycle route from Science Museum through the Esplanade to B.U. Bridge and the final link from River Street Bridge to Watertown Square.

New recreational opportunities were also developed to serve heavily-populated inner-city locations in East Boston, Hyde Park and Somerville.

A \$600,000 program for rehabilitation work and athletic facilities at Constitution Beach in East Boston reached the midway point. The first two phases saw the installation of basketball and handball courts, benches, floodlighting, a children's play area, replacement of paving with green park space and miscellaneous improvements. The final stage calls for enlarging the skating rink to accommodate dressing rooms, shower, multi-use rooms and spectator seating and also two tennis courts and extensive landscaping.

Plans for a new 200-acre Belle Isle Reservation near Constitution Beach moved into its first stage with the acquisition of the 28-acre, former Suffolk Downs drive-in theater. A master plan calls for recreational

"Cash for Trash", Volunteers Help Litter Cleanup Program

It was "cash for trash" at Nahant Beach this season in a unique program that made litter literally disappear.

The inducement was a refund of a 50c parking fee when a car occupant returned a ticket stub with an MDC plastic bag containing trash. A continuation of the system for the 1976 season is under review.

Hundreds of volunteers continued their response to spring cleanup drives along beaches, rivers and reservations. The sixth annual cleanup of debris and litter on the Charles drew 500, spearheaded by the Charles River Watershed Association. A delegation from the Save Our Shores organization and other volunteers voyaged to harbor islands for their fourth annual anti-litter effort.



(Boston Globe photo by Ulrike Welsch)

SPRING FISHING at Wollaston Beach is enhanced by a fine view of the Boston skyline.

development of this site, balanced by a conservation area in the adjoining salt marsh.

At Dale Street, Hyde Park, a 1½-acre wooded tract is being converted to recreational purposes, including two tennis courts, basketball standards, children's play area, pathways and lighting under a \$136,872 contract.

Saxon Foss Park on McGrath Highway, Somerville, was given a \$71,903 refurbishing by installation of basketball standards, improving two tennis courts and landscaping.

Scattered through the park system, 2969 trees and shrubs were planted in the fifth year of an aesthetic and environmental program, bringing the total plantings to nearly 15,000 in parks and along roadways and waterways.

In prospect is a large-scale revitalization of Revere Beach and replacing the blighted amusement area with an expanded beach reservation. The beachfront park is a facet of a major joint redevelopment effort in the Revere Beach area involving a parking garage, transit extension and a new connector highway, as well as a proposed private housing development westerly of Ocean Avenue. MDC planners are working actively with the developer and government agencies to safeguard and enhance public enjoyment of the heavily-used recreational asset which was acquired in 1895 as the first publicly-owned beach in the country.

On July 1, MDC is scheduled to take title to Boston Arena in one phase of the reorganization of agencies under the Executive Office of Environmental Affairs, which abolishes the Boston Arena Authority. Preliminary action has been taken by the City of Boston to purchase the facility for a municipal schoolboy sports center.

Outdoor Recreation Activity Growing in Parks District

With a vast potential for wholesome recreation, the parks system is steadily widening its broad scope of activity to meet regional needs and satisfy newly-developing public interests.

In response to growing demand for leisure-time outlets, MDC has stimulated a resurgence of canoeing and expanded opportunities for sailing, cross-country skiing, nature study, tennis and other outdoor recreation.

Cooperative efforts with municipal agencies and private organizations have achieved considerable success in more intensive use of various parks system facilities at minimal management and operating expense for MDC.

Charles River Big Recreation Asset

As a priceless natural asset in an urban setting, the 8½ mile Charles River Basin and its shoreline park reservation have increasingly become a magnet for millions seeking recreation and relaxation.

A myriad of open-air activity is available along the Charles, ranging from boating of every description to a series of playgrounds, athletic fields, tennis courts, swimming and wading pools, a summer theater at Herter Park, skating rinks, bikeway network and just plain sunning and strolling.

Among riverfront activities, highly-diversified performances at Hatch Memorial Shell were a prime attraction for the 1975 season, drawing an estimated



BLUE HILLS RESERVATION offers diverse activities, among which are maple sugaring at Ponkapoag Outdoor Center operated by Greater Boston YMCA, cross-country skiing and Junior Boys Golf School, sponsored by N.E. Golf Association.



(Boston Globe photo)

attendance of 389,000 for 33 events. A varied repertoire ran the gamut from Boston Symphony's traditional Esplanade Pops concerts and a "Bach in the Basin" series to eight performances of "Ballet on the Esplanade." Highlight of the season was Conductor Arthur Fiedler's second annual presentation of Tchaikovsky's "1812 Overture" by the Pops Orchestra. The spectacular performance was punctuated by firing of 105 mm howitzers, amplified bell ringers and nearby church bells, climaxed by a privately-sponsored, mammoth aerial fireworks display from anchored barges. An estimated 125,000 to 150,000 spectators were packed along both shorelines and in a flotilla of boats, described by some observers as the biggest turnout for any event in Boston history. Large crowds were entertained also by 60 band concerts at various beaches and reservations in the parks system during July, August and September.

In an innovative experiment proposed by People for Riverbend Park, MDC rerouted automobile traffic on a Sunday in May and opened a 1½-mile stretch of Memorial Drive to enlarge the grassy riverfront area for casual enjoyment by 15,000 persons. The carnival atmosphere of music, street theater, frisbee tossing and picnics was termed a huge success.

Another big happening on the river — the Head-of-the-Charles Regatta — earned a newspaper description as the biggest rowing event in the world. In its 10th year, the late October competition drew 2577 rowers competing in 590 boats, viewed by 60,000 spectators.

Sailing, Canoeing Activity Growing

Lending a picturesque flavor to the lower basin, MDC's sailing program, established in 1936, continues to grow steadily under the auspices of Community

Boating, Inc. Membership at the self-sustaining facility jumped to 6746 senior and junior participants, an increase of 1105 over 1974. Enrollment of physical education classes rose from 213 to 559 students, representing 21 public and private schools and colleges. Overnight and daytime harbor trips, a rowboat regatta, junior olympics and varied social events were among other activities.

Boat traffic, predominantly recreational, passing through Charles River locks has reached 16,336, creating conditions that led to the first redraft of basin regulations in 40 years. The updated rules, designed to iron out safety and other conflicts between powerboats, sailboats and sculls, tightened provisions for speed limits, size limitations, sanitation and other controls affecting mooring and boating facilities.

A revival of canoeing on the Charles has accelerated remarkably, particularly under the auspices of Lincoln Guide Service housed at the MDC Police Riverside substation in Auburndale. Since its inception here in 1973, canoeists have increased from 4000 to 15,069 and the rental livery has grown to 60 canoes. The appeal of physical fitness, healthy recreation and river ecology has attracted school, organization and employee groups and even college credit physical education programs. Further growth has begun with MDC's recent acquisition of Needham YMCA's Redwing Bay canoe rental livery, including an acre of riverfront, which accommodated 3200 canoeists in the 1975 season. The facility is being operated under YMCA management. Canoe rental was also introduced this year at Magazine Beach, Cambridge, where a small-scale operation drew about 500. Other locations are planned for eventual development in the 30-mile

Off-Beat Summer Activities Developed at Skating Rinks

There's no end to ingenuity in developing off-season activity for summer fun at MDC's skating rinks.

One municipal recreation department has introduced jogging to supplement tennis instruction, while another rink was utilized for junior and senior box lacrosse.

Tennis was the biggest sport, utilizing four of the 16 rinks converted to vacation use. Other activity sponsored by municipalities or organizations included day camps, recreation and social programs, street hockey, basketball, dances and dog shows.

stretch between Wellesley and the Boston Esplanade.

The emphasis on greater utilization of MDC waters has seen the pioneering sailing program on the Charles supplemented by two newer, fast-growing facilities. In its second year's operation, sailing in the Mystic River Basin has increased from 500 to 2594 participants enrolled at the new boathouse and pavilion on the Somerville shoreline, designed to accommodate the Parks District's northern region. The Pleasure Bay sailing program in South Boston, serving the southern area, completed its fourth season with an enrollment of 1574, mostly youngsters. Sailing instruction included special classes for the blind, handicapped and senior citizens. The facilities were also used in the athletic programs of 12 Boston schools and hosted the Massachusetts High School Sailing Championship with 35 participating schools and the New England Prep Schools Championship with 27 competitors.

Fishing, Cross-Country Skiing Popular

Fishing in MDC waters continues on the rise, especially at Quabbin Reservoir's three fishing areas where 65,725 anglers turned up in 1975, an increase of nearly 3000 over the previous season. A new state record was set here by a catch of a landlocked salmon weighing nine pounds, 11 ounces. On hand for rental were 113 aluminum boats and 52 motors. Additionally, the MDC water supply system offers fishing opportunities by permit at designated shorelines of Wachusett and Sudbury reservoirs. In 1975, permits allowing use of either reservoir rose to 6200, nearly 1000 above the 1974 season. In its second year's operation, thousands flocked year-round to the recreational fishing pier at the Lynn Harbor mouth of



MOVING PANORAMA and good catches draw anglers to fishing pier at Castle Island, South Boston [left]. Scenic and historic attractions at newly-developed Boston Harbor Islands Park are shown to visitors in guided tour at MDC's Lovells Island.

Saugus River, MDC's second salt water pier. The other is at Castle Island, South Boston. Fresh-water sportsmen were drawn also to a dozen ponds in park reservations, where stocking and a water improvement program have upgraded fishing sites. Five fishing derbies attracted 3000 participants.

The popularity of easily-accessible skiing locations has led to further expansion of the winter sport in the Parks District. Cross-country skiing was introduced this year at the Martin Golf Course in Weston, operated by Lincoln Guide Service, offering instruction, lighted touring tracks and supplied by man-made snow when necessary. The site near Route 128 and Massachusetts Turnpike has been described as the first strap-hanger's ski touring area, because of its proximity to the MBTA Riverside line. Attendance reached 5000 during the first season's operation. At Ponkapoag Golf Course in Blue Hills Reservation, Wilderness Trips accommodated 1000 in its second year's activity. Floodlight night skiing at Blue Hills Ski Area, Canton-Milton, accounted for 30% of week-day use of lifts among the turnout of 25,000 skiers and 20,000 attending the ski school. The ski area is fully-equipped with artificial snow-making apparatus, a double chair lift, two J-bars and two rope lifts.

A unique feature is being installed at MDC's Leo J. Martin Memorial Golf Course in Weston where ground has been broken for a golf museum serving also as headquarters for the state's major golf organizations. The privately-funded building will display mementos of the late Francis Ouimet of international fame and house the Ouimet Caddie Scholarship Fund, Massachusetts Golf Association and Women's Golf Association. As a youth Ouimet won the U.S. Open at The Country Club, highlighting a brilliant career in



(MDC photo by Jack Maley)

CHARLES RIVER offers a myriad of open-air activities, including a revival of canoeing, sailing for youngsters and adults against a background of Beacon Hill and downtown Boston and heavily-attended events at Hatch Shell.

which he twice captured the National Amateur Championship and took the Massachusetts Amateur title six times.

At the two 18-hole Ponkapoag courses in Canton, a five-day Junior Boys Golf School and Camp was held for the second year attended by 65 youngsters, sponsored by New England Golf Association and housed at Ponkapoag Outdoor Center in Blue Hills Reservation. Other major events were the 32nd annual New England Junior Golf Championship with 714 entries, rated as the country's biggest for juniors; the 36th annual CYO tournament for 691 contestants and the fourth annual Massachusetts Public Links Tournament in conjunction with sectional qualifying rounds for U.S.G.A. national competition, with 75 entries.

Biggest attraction in the parks system is bathing at MDC's 17 miles of ocean beaches and four fresh-water beaches, drawing an estimated attendance upwards of 15 million. Nineteen pools used by 415,090 persons offered many special programs such as swimming instruction for youngsters, for adults at evening classes and handicapped and special children, as well as swim meets sponsored by high schools and municipal recreation departments. Two pools were utilized for rehabilitation of patients at the Veterans Administration Hospital in West Roxbury and Massachusetts General Hospital.

For the third successive year diminished use of skating rinks was noted, with attendance dropping to



1,705,300 from the two million peak for the 1971-72 season. The reduction primarily affected general skating, which has fallen by 260,712 in three years despite the addition of five rinks. The figures were interpreted as indication that further rink construction would be tapered off. Artificial skating facilities will reach 26 next season upon completion of a \$1,757,000 rink at a projected waterfront park in Boston's North End, providing impressive harbor and park views from its large window-walls and a 500-seat capacity.

A wide range of skating activity continues, including boys and girls hockey, classes for speed-skating, figure-skating, handicapped children and school physical education, and skating parties, representing an attendance of 950,000. Public skating was assigned approximately 48 hours weekly at each rink and rental use about 52 hours for a total of 19,347 rental hours. A variety of special programs were conducted by municipal recreation departments.

A new environmental facility on Chickatawbut Hill became the third nature center located in the 5700-acre Blue Hills Reservation, all offering stimulating education and healthful recreation for classroom groups and outdoor enthusiasts. The former Army Nike base with a panoramic view of Metropolitan Boston

and the harbor from a 517-foot elevation accommodated 3070 participants from school and youth groups, as well as conservation and natural history workshops for youth leaders. Training seminars were also conducted by MDC for park foremen. The center is equipped with a cafeteria and dormitory for resident programs. At Trailside Museum, attendance rose to 89,295 from 1974's turnout of 82,389, including free admissions for 18,978 in school and other special groups from the Parks District. Activity programs were highlighted by week-end hikes, guided walks, staff lectures and many special events. Construction is scheduled to start next year on a \$263,000 expansion project, consisting of an educational auditorium, landscaping and other improvements. Both Trailside and Chickatawbut are managed for MDC by Massachusetts Audubon Society.

A highly-productive forestry management and conservation activity was introduced by Ponkapoag Outdoor Center, another nature-oriented facility in the Blue Hills, operated by Greater Boston YMCA. The work was performed by 35 resident teenagers from across the state and 21 day workers from Boston under a Federal grant from Youth Conservation Corps and aided by MDC supervision and equipment. In other activity, nearly 10,000 participants of all ages took part in such programs as year-round camping, educational sessions, family week-end and overnight stays, day camps, maple sugaring, horseback instruction and treks. Ponkapoag is equipped with winterized dormitory facilities, a crafts building, dining lodge, swimming pool and its own riding stable.

An MDC-sponsored fun and educational program at Children's Museum drew 1135 school and community groups from the Parks District totaling 30,165 youngsters, an increase of 2430 over the prior year.

Live theater was staged at 10 locations in the Parks District attended by 5000 children in the 22nd year's performance by Boston Children's Theater sponsored by MDC.

MDC's three stadiums were heavily used for diversified activity. High schools scheduled 120 football games, two track meets and two graduations. Other events included 17 Gaelic football competitions, 42 rugby games and seven drum and bugle corps competitions. Athletic fields were intensively booked for baseball, softball, Little League, soccer and field hockey.

Responding to mounting popularity of tennis, the parks system has expanded its courts to 35. Indication of public demand was noted at the two new lighted courts in Charlesbank Park in Boston's West End, the only courts on a reservation basis, where 4500 one-hour permits were issued.

The 50-acre Camp Nihan acquired in 1973 has developed into a center for overnight and day camping. The Saugus facilities adjacent to Breakheart Reservation have accommodated 7500 campers, largely Boy Scouts and special programs for youngsters.

Wildlife Education Programs Move to Forefront at Zoo

Development of education programs planned as an integral aspect of zoo activity has taken a big step forward in preparation for a construction start in 1976 on the new Franklin Park Zoo.

The learning functions are being shaped on a pilot basis for future expansion at the projected indoor-outdoor African wildlife exhibit — centerpiece of an innovative 52-acre zoo.

Personnel of Boston Zoological Society (BZS), which manages the zoo for MDC, have already begun on-site classes, in-school teaching, teacher training and attendance from summer camps and day care centers, while devising similar activity for the elderly.

The zoo became a wildlife education classroom for 500 fifth and sixth graders from 12 schools in Boston, Brookline, Newton, Needham and Walpole, funded by a grant from the State Department of Education. A Summer "Urban Safari" drew over 1000 Boston youngsters to a living classroom. Both programs introduced young people to the world of animals and brought together diverse groups of urban and suburban students. And into classrooms and other locations in the Parks District went the Zoomobile for 204 appearances and the Traveling Zoo for 125 treks during the summer vacation.

Work on the new African Zoo's tropical forest pavilion is now scheduled to begin next summer to be followed by three other pavilions depicting a bush forest, desert and savanna. The pavilion complex will enclose 6½ acres of exhibits, viewing and service areas. Outside exhibits and visitor walkways will spread over a 20-acre adjoining area, featuring free-running, natural settings inhabited by homogeneous animal communities separated by hidden moats. Service and holding facilities will be housed along the perimeter of pavilions, allowing controlled access of animals to indoor or outdoor areas.

Phasing of the new zoo is expected to extend over the next four to 10 years at an estimated cost ranging up to \$24 million, funded by Federal grants, MDC bond issues and private sources. BZS has raised \$1.1 million of its \$6 million goal for natural habitat exhibits, animals and educational graphics.

Official opening of the "Bird's World" in September was greeted with plaudits and stimulated fresh enthusiasm for the concept of natural settings and unobstructed display of animals planned for the projected African wildlife exhibit.

The \$2 million project converted a dilapidated aviary of 1912 vintage into a completely rebuilt outdoor flight cage where an elevated walkway above a jungle gorge



WILDLIFE EXHIBITS are brought to youngsters at Children's Hospital in Boston and a Lynn classroom via the Zoomobile of Franklin Park Zoo, as part of the Boston Zoological Society's wildlife education program.



(Lynn Item photo by Bob Crosby)

brings people and birds together amid trees, plants, waterfalls and waterways. The aviary extends into an adjoining three-level system of pools and natural waterfalls offering a variety of habitats for ducks, geese and exotic species.

The adjacent birdhouse inside a reconstructed building contains displays of bird collections in five open-fronted natural environments of swamps, rain forest, mountain-side, desert and riverbank. Mini exhibits explaining living habits of birdlife, displays of native New England birds outside the birdhouse and classroom space are providing a broad educational experience for school groups as well as the public.

This was the first major joint development between MDC and BZS since the organization assumed management of MDC zoos in 1970. The group also operates the Children's Zoo at Franklin Park and Walter D. Stone Zoo in Stoneham.

At the Children's Zoo, which brings youngsters and small animals together for bottle feeding and other close contact, a large swamp exhibit has been added and other major exhibit changes are being developed for 1976.

Zoo facilities and grounds have been the scene of varied activities, ranging from square dancing tied in with the barnyard animal exhibit to a pocket mime theatre performance and an arts and crafts workshop, Summerthing Jamboree and birthday parties for youngsters at the Children's Zoo. Franklin Park was also a participant in a low-cost museum loop shuttle

bus linking seven cultural institutions.

Development of a six-member hospital staff and volunteer assistance by medical professionals has provided resources for an intensive preventive medicine program for the entire collection of 1269 specimens, continuous training of in-house staff and treatment of 200 ill or injured animals requiring hospitalization. Research in several areas has been carried on in the zoo's biomedical center.

Acquisition of animals continues to emphasize breeding groups of pairs and rare and endangered species to protect them from extinction.

Exhibit improvement is receiving much attention at the Stone Zoo in Stoneham. The waterfowl area has been enlarged by removing black top paving and changes at the sea lion exhibit are encouraging breeding activity by providing a proper place for the females to whelp. At the aviary, a seashore exhibit was built and landscaped and the penguin exhibit was refurbished.

Still in prospect is a plan for charging admission at Franklin Park and Stone zoos, which BZS regards as critical for upgrading staffing, expediting improvements and meeting operating expenses. Zoo officials believe this would also increase control and reduce vandalism. Under a legislative authorization applying to Franklin Park, the zoo would be open free of charge "for a reasonable period" each day and there would be no charge for scheduled school groups from the MDC Parks District.

Historic Sites Embellished For Bicentennial Visitors

The Bicentennial celebration has stimulated considerable activity on improving the parks system's historic sites in preparation for an influx of visitors.

A major uplift was given to Bunker Hill Battlefield and Monument through joint efforts of MDC and U.S. Army Corps of Engineers. The Corps traces its 200-year origin to construction of fortifications for the momentous battle of June 17, 1775.

An extensive improvement and refurbishing program was completed at the monument, the lodge, exhibits and grounds. At each of four entrance gates, commemorative tablets were installed honoring the battle roles of Massachusetts, New Hampshire and Connecticut forces and by Colonel Richard Gridley, first chief of engineers of the Colonial Army. These were fashioned from the same type of Quincy granite that went into the monument.

Observance of the battle's 200th anniversary was marked by special events highlighted by a large-scale reenactment of the historic encounter. During the month of June, 11,547 visitors thronged the Charlestown site, pushing total attendance for the year to 64,440. A special attraction was an electronic system describing the battle through wireless headsets in simulated voices of Colonial and British officers, installed and operated by a private organization.

The monument, park and four surrounding streets are destined to become part of the proposed Boston National Historical Park, possibly next year. Transfer of the property to National Park Service has been approved by the Commission and authorized by Federal and State legislation.

An electronic system similar to Bunker Hill's was activated for Fort Warren on Georges Island, relating its role in defending the harbor in American wars and as a Civil War prison for Confederate civil and military personnel. A \$593,000 reconstruction job on the island seawall and old gun emplacements was completed, utilizing an unusual technique of transporting cement from the mainland by helicopter.

At Castle Island in South Boston, designs were finalized for the first phase of restoring Fort Independence, where fortifications were first erected in 1634 and rebuilt at least four times. One of the forts was designed by Paul Revere in 1778 after destruction by the British upon their evacuation of Boston in 1776. Revere was commissioned a lieutenant colonel later and commanded the fort. Restoration work is expected to start by the spring of 1976, but the fort's opening to the public may be delayed until 1977.

Electrical work and other interior improvements are scheduled at the Quincy Homestead in Quincy, supplementing a newly-completed structural, exterior



HISTORIC FORT INDEPENDENCE at Castle Island, South Boston, is scheduled in 1976 for a major restoration project. The adjoining area contains a harbor-side park, walkway, picnic tables, Pleasure Bay's sailing pavilion and beach and a fishing pier shown at right of photo.

and landscaping program. The Homestead and its handsome furnishings of two centuries was the childhood home of Dorothy Quincy who married John Hancock in 1775. Constructed in the 1680's and enlarged in the early 18th century, the premises have been furnished and administered by the National Society of Colonial Dames.

Another significant restoration project will be underway this fall at Moswetuset Hummock, off Quincy Shore Drive, home ground of the Indian tribe from which Massachusetts derived its name.

The site of the first Colonial powder magazines and military training field has been embellished by landscaping and restoration of the Magazine Beach recreation area in Cambridge.

Cost appraisals have been made for the important acquisition of the historic 179-acre Sawmill Brook Valley area in West Roxbury's Charles River corridor under a fund authorization for conservation and park purposes. This is the scene of Brook Farm, a social experiment in the 1840's by a small commune of Transcendentalists. Adjoining the tract is Pulpit Rock, where Rev. John Elliot brought Christian teachings to native Indians in the mid-17th century as "The Apostle to the Indians." Both sites are registered as National Historic Landmarks.

Appraisals have also been completed to acquire and restore the site of the old Incline and Granite Railways in Quincy, the nation's first commercial rail line, which transported granite for Bunker Hill Monument to the Neponset River for shipment to Charlestown.

Considerable interest in the archaeological potential of many sites on MDC property has led to adoption of regulations governing professional archaeologists. Among these areas are the Charles, Mystic and Neponset river basins, harbor islands and Ponkapoag and Green Hill in Blue Hills Reservation.



SCENIC PARKWAY FEATURES are preserved by Memorial Drive in Cambridge [left] and Soldiers Field Road in Boston, while carrying heavy traffic along the Charles River. (MDC photos by Officer Willard Hardigan)



Roadway System Improved, Major Bridge Work Planned

Proper maintenance and police patrol of MDC's 168 miles of roadways are vital to the area's motoring and commuting public, for they comprise many of the main routes within Route 128. Metropolitan District Police also patrol 18 miles of the Northeast Expressway, Central Artery and Southeast Expressway.

Significant progress has been made during the year toward upgrading the roadway system and paving the way for long-needed bridge reconstruction.

Finishing touches were completed on a \$645,278 resurfacing and reconstruction project on a two-mile stretch of Storrow Drive and Soldiers Field Road in Boston, including median strip improvements. On a 3000-foot section of Quincy Shore Drive a \$967,644 contract was awarded for reconstruction work, a median strip, sidewalk, bicycle path, pedestrian lights and other improvements. Two other contracts were completed for resurfacing and reconstruction work in various locations at a cost of \$891,889.

Three heavily-traveled overpasses at Forest Hills, Memorial Drive and Storrow Drive received a \$243,000 repair job and \$312,655 was spent on a repair and replacement program for guard rails, chain-link and steel picket fences on roadways.

Through a cooperative effort with the State Department of Public Works (DPW), substantial Federal funds will be tapped for vitally-needed bridge replacement and other projects.

Following conclusion of design work, it is anticipated that DPW will replace Wellington Bridge carrying Route 28-Fellsway traffic spanning Mystic

River and Harvard Bridge over Charles River. Other large structures requiring replacement or major work are General Lawrence Bridge over Mystic River on Veterans Memorial Parkway, Medford; two railroad bridges on Alewife Brook Parkway in Cambridge, Dorchester Bay Bridge on Morrissey Boulevard and a McGrath Highway bridge in Somerville. Some of these structures were built for use by pleasure vehicles and suffered from overloading later when they were pressed into service for general traffic and trucking in excess of design capacity.

Another joint project with DPW, aided by Federal funding, was substantially completed in a focal area of Morrissey Boulevard, the gateway to the new University of Massachusetts-Boston campus in Dorchester. The \$1 million cooperative project provided improvements at a dozen intersections, including coordinated signals for smoother traffic flow and pedestrian safety.

In a new approach to traffic safety, 1000 high-visibility lane reflectors have been installed at accident-prone locations on five key parkways to test their effectiveness. The new-type reflectors project slightly above the road surface, retract when struck by a vehicle and spring back into place. The units are designed as a supplement to painted lines, particularly for night driving.

Extensive updating of traffic lights and street lighting is also planned to improve roadway safety. Design work on 25 traffic signal locations is nearly complete. Modernization of the lighting system on a three-mile stretch of Veterans of Foreign Wars Parkway in West Roxbury and Brookline is scheduled for completion next year. Similar projects were finished during the year in sections of Alewife Brook Parkway, Cambridge, and Hammond Pond Parkway, Newton-Brookline.

New Services, Work Load Strain Undermanned Police

Metropolitan District Police played a major role in Boston's Phase 1 school desegregation program during the 1974-75 school year. In a busy year that taxed the undermanned force — reduced by 100 men below its 655 authorized strength due to a job freeze — police also coped with formidable racial incidents, emergency assistance to other police jurisdictions and a crack-down on the troublesome drinking problem at beaches and widespread trespassing and misuse of reservoir areas.

The abnormal work-load was superimposed on the traditional police mission of law enforcement and security for extensive park, sewerage and water properties, and protection of lives and safety of millions using recreation facilities and 186 miles of expressways, parkways and roadways.

Meanwhile, in a continuing effort to sharpen operations, a multi-purpose, 62-man mobile unit was organized and an invaluable aerial traffic reporting system was inaugurated.

The new mobile unit, known as Traffic Oriented Patrol Squad (TOPS), has been generally acclaimed as an effective, versatile force. Its primary function deals with enforcement at high-accident locations and top-priority traffic problems, but the specially-trained TOPS officers are utilized, too, for quick response to any emergency.

The innovative aerial traffic reporting system was created as an informational source for motorists in peak traffic periods and to speed up police response for disabled vehicles, accidents and tieups. Aboard an airplane a veteran police radio dispatcher quickly transmits reports to motorists via a Boston radio station, which supplies the aircraft and pilot. At the same time, the officer flashes reports to MDC headquarters to expedite response to emergencies and traffic problems.

The Boston school crisis required mobilization of 100 to 145 men for extended periods, mostly for duty in South Boston and school bus escorts, diminishing to a score of men at times. At its height the response demanded large-scale cancellation of days off, considerable overtime and deployment of a tactical force, mounted officers, motorcycles, plainclothesmen, communications and other support units. Overtime expense totaled \$610,000, of which \$500,000 was reimbursed by the state.

Performance of the sensitive assignment drew editorial praise from one Boston daily newspaper for "admirable courage ... cool professionalism ... remarkable restraint" in the face of "provocation and exacting circumstances."



(MDC photo by Officer Walter Dayton)

School busing tensions overflowed into the summer season, exploding into a series of racial confrontations and violent episodes at MDC's Carson Beach in South Boston, retaliatory stoning of automobiles by partisans on various MDC roadways, injuries and arrests. The climactic clash was touched off at Carson Beach by the appearance of 2000 blacks for a swim-in and picnic to demonstrate their right to use the beach in the wake of previous inter-racial altercations. About 800 MDC, Boston and State Police struggled to keep apart the demonstrators and an estimated 4000 whites. Mounted officers and men on foot waded into the water to turn back some participants offshore. The tense disturbance ended with 40 injured and 10 arrests.

Elsewhere, MDC Police responded to calls for assistance in disturbances at the State House, Charles Street Jail and various cities and towns. Nearly 200 officers were on hand in Lexington, Arlington and for security coverage of President Ford's visit during the bicentennial observance on Patriots Day week-end. The frequent need for costly bus rental to transport large contingents of men led to the acquisition by the Central Services Division of four second-hand MBTA buses at \$100 each. Three vehicles were refurbished as passenger buses and the fourth was revamped as a fully-equipped, mobile command base.

An order barring the public from eight Metropolitan Boston reservoirs to safeguard quality of drinking water against growing pollution infractions by trespassers, bathers and dogs resulted in scores of arrests. At beaches, a crackdown was launched on use of alcoholic beverages which police linked to disturbances, a rash of accidents and a severe trash problem. One district court judge not only imposed a fine but ordered violators to clean up Nahant Beach.



(Boston Globe photo)

HEAVY DEMANDS ON METROPOLITAN POLICE required acquisition of buses for transporting men to emergency scenes and for use as a mobile command base [left page]. Mounted officers with MDC police boats in background [above] were on hand to separate demonstrators in explosive racial confrontation at Carson Beach, South Boston. Motorcycle police escorts for buses were among special units used in Boston's school crisis.

Expertise developed by the Detective Unit has led to participation in special inter-agency, crime-fighting forces in Metropolitan Boston. Two men have been assigned to a new, hard-hitting unit directed by the Suffolk County District Attorney's office. The Federally-financed agency, known as the Suffolk County Investigations and Prosecution Project, works with Federal agencies and has already had a notable record in smashing narcotic, counterfeit and gambling rings identified with organized crime. Two narcotic investigators are involved in a Federally-funded, inter-agency unit aimed at diversion and illegal sale of drugs by wholesalers, doctors and druggists. Another detective team is assigned to the Metropolitan Enforcement Group's North Shore Unit dealing with narcotic investigation.

During the fiscal year ending June 30, 1975, Metropolitan District Police investigated nearly 5000 crimes, an increase of 25% over the preceding year. Almost half of these crimes are categorized as major crimes, involving violence or theft of property. The police cleared by arrest more than half of these, but crime continues to be a problem for MDC, as well as cities and towns.

Although a total of 1131 motor vehicles were



(Boston Globe photo)

reported stolen from MDC property, the police did recover a total of 1984 vehicles, half of which had been stolen elsewhere. The value of property recovered approached \$4 million. A total of 5373 accidents were investigated and about 1800 people were transported to hospitals. With the advent of the TOPS unit dedicated to selective enforcement activity, motor vehicle citations increased 40% to 24,643.

The number of assists to other police departments increased 52% to 1979, ranging from the large effort to aid Boston in its school busing problems to a single car blocking a road near a fire. General assists to the public exceed 11,500.

Use of MDC's harbor islands and Charles and Mystic rivers continues to expand, imposing a growing demand on MDC Police boat patrols. More than 200,000 visitors voyaged to Georges, Lovell's and Peddocks islands during the 1975 season, requiring considerable police activity on the islands and in harbor waters. Six officers manning two patrol boats made 4138 trips to the islands and provided a great variety of services, including rescue of 14 persons, 63 assists, 29 transported to hospitals, first aid rendered to 832 persons and 48 search and rescue missions. Twenty-four boats were towed, four recovered and 321 inspected. There were 13 responses to island fires.

How MDC Organization Delivers Regional Services

The Metropolitan District Commission's concept is based on the belief that communities in Metropolitan Boston can derive greater benefits with more efficiency and lower costs through regional operation of parks, water and sewerage systems.

It has become increasingly evident that many facets of urban life and the environment can be developed and administered most effectively without regard for municipal boundaries.

This trend originated in 1889 with the creation of the Metropolitan Sewerage Commission as the nation's first legally-constituted metropolitan district. Then came the Metropolitan Parks District in 1893 and the Metropolitan Water Board in 1895. The three agencies were consolidated into the Metropolitan District Commission in 1919 for greater efficiency and economy.

MDC operations are governed by a five-member Commission. A Commissioner named by the Secretary of Environmental Affairs, subject to the Governor's approval, serves as full-time executive and administrative head of the agency. Four part-time Associate Commissioners appointed by the Governor join the Commissioner at weekly meetings in setting policy, approving contracts and participating in decisions on departmental operations. The Commissioner and Associate Commissioners each have an equal vote, except that "concurrence of the Commissioner and of not less than two Associate Commissioners shall be required for the execution of contracts and of such other official actions of the Commission as may be required by law."

The Reorganization Act of 1969 establishing a cabinet system placed MDC under the jurisdiction of the Executive Office of Environmental Affairs.

As a department of the Commonwealth of Massachusetts, MDC is under the jurisdiction of the Governor and Legislature, including approval of its operations budget and bond issues for capital construction.

To keep cities and towns informed about activities, public hearings are required annually for municipal officials in the Parks, Sewerage and Water Districts regarding improvements, extensions, new facilities and financial data.

The organizational structure includes six administrative or staff units: Commission Secretary, General Counsel, Commissioner's Office and Special Projects and also the divisions of Administrative Services and Central Services, both reporting to an Executive Assistant for Finance and Administration.

The Administrative Services Division has responsibility for personnel and labor relations, data processing, budget, bookkeeping and payroll. Major support services are assigned to the Central Services Division. These include purchase and maintenance of motorized equipment, bulk purchase of supplies, sign production, maintenance of MDC headquarters building, police stations and Commission-owned homes and acquiring special equipment for emergency operations. A centralized facility is being planned to house a supply distribution center, motor vehicle maintenance and other services.

Departmental operations are performed by seven divisions: Engineering, Sewerage, Water, Parks, Police, Environmental Planning and Environmental Quality. These divisions report to the department's Chief Engineer.

An in-house Project Analysis Board reviews proposed projects and submits recommendations to the Commission. A Land Board, another in-house unit, establishes priorities for land acquisition and recommends action on land use, sales, parks development and related matters.

All legal aspects of the agency's functions are supervised by the Office of General Counsel, such as drafting legal opinions, contracts, proposed legislation, directives and rules and regulations, dealing with public bidding procedure, conducting or participating in quasi-judicial hearings in the areas of personnel, labor relations and police administration, and advising the Commission on various questions of law.

The legal process of land takings, easements and conveyances is performed by the Right of Way Section for recreational, flood control, sewerage and water supply purposes. Permits, easements, deeds and other types of instruments are also processed, along with maintaining and updating a land inventory. The section has an enforcement unit which deals with encroachment on MDC lands, pollution of rivers and streams and other similar violations.

A Planning Section is primarily concerned with park and recreational development, roadway system improvements, landscaping and open space acquisition. The Financial Office operates a data-processing unit for payroll and other departmental uses, processes all receipts and disbursements, maintains fiscal records and serves as the department's accounting office. Interviews and job placement functions are handled by a Personnel Office, which also negotiates collective bargaining agreements, maintains personnel records,

co-ordinates enrollment in training courses and conducts an alcoholic rehabilitation program. A reference library serves as a source of historical data, publications, reports and other information.

OPERATING DIVISIONS

ENGINEERING

The Engineering Division is responsible for planning, engineering and supervising construction of facilities for the Water and Sewerage divisions, flood control and drainage and major Parks District projects. The division's chief construction engineer also has administrative management and engineering oversight of the Parks Engineering Section, which was formerly a separate division. Completed facilities are turned over to operating divisions for maintenance and operation.

Eleven new contracts amounting to \$1.4 million were awarded during fiscal 1975. In addition, work was still in progress or contracts were completed totaling \$33.9 million for 12 projects begun in prior years.

The contracts in effect in 1975 totaled \$19.4 million for the Water Division, \$8.6 for the Sewerage Division, \$212,000 for the Parks Division and \$7.1 million for flood control and drainage. Additionally, structural work was started on the new Charles River Dam under a \$35 million contract in cooperation with the Army Corps of Engineers which is supervising the project.

Parks Engineering Section personnel are engaged in Parks District projects involving designing, engineering services, contract document preparation and supervision of new construction, as well as major repairs of park and recreation facilities, roadways, bridges, drawbridges and locks, street lighting and traffic controls. Upon completion, new facilities come under the jurisdiction of the Parks Division for operation and routine maintenance.

Thirty-nine contracts were awarded for Parks District work during the fiscal year totaling \$4.4 million. There were 23 additional contracts previously awarded and still active or completed in fiscal 1975, amounting to \$5 million.

Other Engineering Division activities consist of land surveys, hydraulic investigations of water and sewer lines; river hydraulics, materials testing, water and sewage analysis, photographic work and aerial photography, architectural services, landscaping, park and recreational developments; legal assistance, preparation of contracts, review and selection of consultant submittals, and participation on committees for land acquisition, solid waste, water resources, environmental impacts, water quality and project analyses.

WATER

The purpose of the Water Division is to furnish pure water to local distribution systems of communities in the Metropolitan Water District and such other cities and towns as can be reasonably supplied.

Twenty-five communities receive their entire water supply and seven a partial supply, with an area of 309 square miles and 1,874,000 population. The City of Woburn (pop. 37,406) was admitted as the 33rd member in 1972 as a partial user, but will not be linked to the system until completion of a new pipeline and pumping facilities. The Town of Wellesley (pop. 28,051), which became the 34th member in 1974, has a "readiness to serve" agreement and plans to rely on its own supply for the present. Ten communities in Central Massachusetts located near MDC reservoirs and aqueducts are supplied in whole or in part under special agreements.

The Water District's sources are the Quabbin, Wachusett and Sudbury watersheds and the runoff of the Ware River watershed during certain periods. Storage reservoirs on these watersheds have a capacity of 495 billion gallons, principally at Quabbin Reservoir with its capacity of 412 billion gallons and Wachusett's 67 billion gallons. However, Quabbin has not reached capacity since 1961, the beginning of a six-year drought which lowered the reservoir to 45% of maximum elevation. Its 1975 high level was 95.3%.

The water supply is delivered to Metropolitan Boston through 131 miles of aqueducts and tunnels and distributed via approximately 260 miles of pipelines, mostly by gravity flow.

Facilities under control of the Water Division include six storage reservoirs with 467 square miles of tributary watershed, a water surface of 30,000 acres, four hydro-electric power stations, 16 miles of high tension power transmission lines, 12 distribution pumping stations to service high elevations and 16 distribution reservoirs with a capacity of 3.1 billion gallons.

Ten construction contracts were completed during fiscal 1975 for a total of \$1,671,043 including a \$1,470,000 pipeline linking the system with Woburn. The other work dealt with various maintenance and repair requirements.

SEWERAGE

An intricate sewerage and treatment system is under the jurisdiction of the Sewerage Division. Its vast sewage collection and pollution abatement functions require maintenance and operation of 12 pumping stations, two treatment plants, four pre-treatment headworks, a detention and chlorination station for combined stormwater and sewage overflows along Charles River Basin, a pre-treatment and chlorination

station for combined overflows at Mystic River Basin and 227 miles of trunk sewers.

Forty-three cities and towns covering 407 square miles, with 2,146,366 inhabitants, are members of the Sewerage District. Wastewater flows through 5087 miles of local sewers connected to MDC trunk lines at 1791 locations, an increase of 40 miles over the previous year. The municipal lines link 397,741 individual connections with the MDC system, an increase of 3764 in the past year. Per capita cost of sewerage operations in 1975 was \$8.34, of which \$4.80 was for maintenance and operations and \$3.54 for debt service.

Average daily sewage load was 429 million gallons and the 24-hour maximum flow was 658 mgd passing through primary treatment and chlorination at Deer Island and Nut Island plants before a discharge via outfalls into outer Boston Harbor. The process provides screening and grit removal, pre-chlorination, pre-aeration, primary sedimentation and post chlorination. Raw sludge is treated by thickening and high rate digestion prior to discharge, producing a by-product of methane gas utilized for electrical power and heating.

There were eight contracts awarded by the division or in force during fiscal 1974 totaling \$716,523, including a \$602,500 contract for dredging over a 48-inch pipe siphon at Weymouth-Fore River to accommodate larger shipping vessels. Other work involved maintenance and repair requirements.

PARKS—RECREATION

The Parks and Recreation Division is responsible for maintenance of extensive Parks District property and supervising recreation programs.

Under its jurisdiction are nearly 15,000 acres of parkland, including five major reservations and 17 miles of beaches, 26 skating rinks, 19 swimming pools, three 18-hole golf courses, three harbor islands, the Charles, Mystic and Neponset rivers within the District, 168 miles of roadway and a wide variety of other recreation facilities and parks.

Its Recreation Services Section develops, schedules and oversees recreational use of facilities, such as rinks, pools, Hatch Shell, stadiums, athletic fields, special events and miscellaneous recreational activity.

The division also operates locks and drawbridges and has administrative and maintenance responsibility for the Franklin Park and Stone zoological parks.

POLICE

Primary mission of the Police Division is protection of MDC property and people using its facilities and patrol of 168 miles of MDC roadways and 18 miles of the Northeast, Southeast and Central Artery expressways within Suffolk County, which are main-

tained by the State Department of Public Works. The division also has full police powers in any community where MDC has property.

Its broad responsibility for law enforcement at parklands, waterways, harbor islands and roadways requires highly diversified functions and equipment. Daily use of a K-9 unit, detectives, narcotics officers, mounted police and boat officers enables the force to patrol a widespread and diversified environment. Patrol officers with specialized capabilities, such as scuba diving and bomb disposal, are often called from their regular duties to perform these hazardous functions. Special equipment, such as breathalyzers, radar, underwater communications and police boats are used regularly by MDC officers.

A new Traffic Oriented Patrol Squad (TOPS) represents a mobile force available for special problems and events anywhere in the Greater Boston area. Each weekday a Metropolitan District officer overlooks the traffic scene from an aircraft provided by a local radio station. He is in a unique position to provide information about breakdowns and tieups, as well as directing service and emergency units trying to ease traffic jams and respond to accidents.

ENVIRONMENTAL PLANNING

Responsibility for a wide range of environmental concerns has been assigned to the Environmental Planning Division. The agency administers the Federal and State Environmental Policy Acts for MDC, such as preparation of environmental impact reports and assessments and review of similar reports by other agencies affecting MDC facilities. It also has prime responsibility for water and wastewater planning and program implementation. Other services include representing MDC on Federal, State and regional committees, land use planning, assistance on regulatory permit procedures and consultant contract administration and management.

Currently, the division is coordinating and managing the wastewater study for the Eastern Massachusetts Metropolitan Area in conjunction with the Army Corps of Engineers. It appears that the study will result in the implementation of an \$855 million construction program for pollution control facilities.

ENVIRONMENTAL QUALITY

Specialized services dealing with environmental problems affecting the air, land and water are furnished by the Environmental Quality Division. Its primary functions are developing and managing projects designed to protect and improve the environmental quality of the areas under MDC jurisdiction, monitoring water quality of the metropolitan rivers and their tributaries and MDC beaches and pools and advising MDC on matters affecting the environment.

Assessments Primary Source of MDC Financing

As a regional public agency, the Metropolitan District Commission is financed primarily by assessments on 54 communities which are members of one or more of its three districts.

Additional money comes from the State Highway Fund, State General Fund, state allocations for certain flood control projects and miscellaneous revenue such as fees, rentals, licenses, permits, fines, penalties, sales, Federal reimbursements or grants, etc.

The operating budget and bond issues for capital constructions are subject to approval by the Governor and Legislature.

Principal financing sources for the three districts are the following:

PARKS — Recreational capital construction by bond issues, amortized by assessments based on property tax valuations of communities in the district; maintenance of boulevards and reservations and police costs by 60% from the State Highway Fund, 1% from the State's General Fund and 39% by member cities and towns with one-third based on population and two-thirds on valuation; highway and bridge construction by legislative allocations from state highway bond issues. For fiscal 1976 the formula for maintenance and police will be revised to 67% from the State Highway Fund and 33% by member cities and towns.

WATER — Charge of \$200 per million gallons, with special provisions for communities outside the Water District. A \$240 rate was established for calendar 1975, reflecting in fiscal 1976 income. The increase was attributed to the inflationary trend and partially to the transition from deficit financing to a pay-as-you go system, which became effective in 1974.

SEWERAGE — Debt requirements apportioned on the basis of capacity of municipal sewers connected to MDC sewerage system; maintenance expense assessed on the basis of population.

For the fiscal year ending June 30, 1975, the Commission spent \$47,882,670 on maintenance and operations, an increase of \$3,045,408 or 6.8% over the previous year. Interest and principal payments on bonds issued for capital projects and water fund deficits amounted to \$24,676,291, up \$1,143,109 or 4.9% over 1974. The combined expenditure was \$72,558,961, a rise of \$4,188,517 or 6.1%.

An additional \$4,251,973 was expended for highway construction from state highway bond funds and for certain flood control projects from other special authorizations, which do not reflect in assessments on MDC cities and towns.

The \$76,810,934 total represented 62% for maintenance and operations, 32% for MDC bonded debt and 6% for expenditures from state bond funds.

The \$3,045,408 rise in maintenance and operations was attributed primarily to a \$2,905,277 increase in payroll. Although the number of employees fell slightly, the cost was affected by a 6.2% cost of living pay increase effective only for the last half of fiscal 1974 but for the entire fiscal 1975 year. The police payroll, alone, rose by \$1,182,072. This included \$610,000 for overtime duty in Boston's Phase 1 school desegregation program and such factors as retroactive court time payments, education incentive benefits and step-rate increases. About \$500,000 of the Boston school expense was reimbursed by the state, recorded as Parks District income.

EXPENDITURES

	1975		1974	
	Operations	Debt	Operations	Debt
Administration	\$ 834,376		\$ 766,443	
*Parks	26,501,221	\$ 5,650,234	25,418,856	\$ 5,103,022
Sewerage	10,432,385	7,639,461	9,436,165	7,576,295
Water	10,114,688	11,386,596	9,215,798	10,853,865
	<u>\$47,882,670</u>	<u>\$24,676,291</u>	<u>\$44,837,262</u>	<u>\$23,533,182</u>
Total	\$72,558,961		\$68,370,444	

* Includes cost of MDC Police operations.

Note — An additional \$4,251,973 was spent in 1975 and \$4,273,945 in 1974 for highway construction projects financed by state highway bond issues and flood control and other special authorizations financed by state General Fund bond issues rather than assessments on MDC cities and towns.

PRINCIPAL INCOME SOURCES

	1975	1974	
Parks	15,544,558	\$ 14,856,754	37 Cities & Towns
Sewerage	16,448,453	14,082,224	43 Cities & Towns
Water	20,293,639	12,450,665	32 Cities & Towns
State Highway Fund	15,900,733	15,448,223	
State General Fund	347,071	314,395	
Revenue	3,402,621	2,938,945	Admissions, Sales, Fees, etc.
Water Deficit	*7,785,000	4,550,000	
Bonds			
	\$ 79,722,075	\$ 64,641,206	

Note: Income figure for Water differs slightly from assessment table, due to various adjustments. Sale of power, licenses, fees, concession permits, etc., do not accrue to the Commission for re-use, but rather flow directly into the appropriate fund and thereby reduces assessments against cities and towns. Federal reimbursements ordinarily have the same effect.

* Represents water fund deficit in 1974. This is anticipated to be the last bond authorization to cover such deficits.

* PERSONNEL EXPENDITURES

	1975	1974	1973
Administration	\$ 600,493	\$ 524,976	\$ 566,340
Engineering	3,622,717	3,494,219	3,324,074
Highway Eng.	478,024	492,929	476,456
Parks & Parks Eng.	9,829,974	9,114,975	8,692,089
Police	9,008,097	7,826,025	7,365,332
Sewerage	4,958,568	4,549,820	4,487,642
Water	5,301,464	4,891,116	4,922,443
Total	\$33,799,337	\$30,894,060	\$29,834,376

*Includes permanent, temporary and seasonal employees as of June 30.

TOTAL PERMANENT AND TEMPORARY EMPLOYEES AS OF JUNE 30

	1975			1974			1973		
	Perm.	Temp.	Total	Perm.	Temp.	Total	Perm.	Temp.	Total
Administration	54	1	55	57	4	61	56	6	62
Engineering	258	-	258	259	-	259	274	-	274
Highway Engineering	-	39	39	-	43	43	-	46	46
Parks & Parks Eng.	684	1120	1804	658	1094	1752	668	940	1608
Police	516	26	542	579	23	602	551	23	574
Sewerage	437	1	438	461	2	463	441	-	441
Water	509	13	522	507	64	571	510	41	551
Total	2458	1200	3658	2521	1230	3751	2500	1056	3556

MDC's debt structure has shown a flattening trend in recent years, but bond issue obligations rose to \$283 million in 1975, an increase of \$22 million.

In the next few years, debt retirement is expected to compensate for anticipated new bond issues and stabilize the debt level. However, a rise is likely eventually for large-scale construction of water supply and distribution facilities, costly pollution control installations to meet Federal requirements and several major recreation projects.

A significant factor in the Water Fund indebtedness has been the issuance of long-term bonds to cover annual deficits, a procedure instituted by law in 1946 and responsible for borrowing \$109.8 million by 1975, of which \$60.2 million is currently outstanding. This practice ended when MDC's long-standing proposal for a pay-as-you-go system was authorized by 1973 legislation. The changeover was implemented in the 1974 rate, requiring an increase from \$120 per million gallons to \$200. The additional revenue affected fiscal 1975 receipts. A \$240 rate was necessary, effective January 1, 1975, with receipts credited to fiscal 1976. It was expected that this rate would remain stable for the following year.

OUTSTANDING DEBT, JUNE 30 (In millions of dollars)

	<i>Sewage</i>	<i>*Water</i>	<i>Parks</i>	<i>Total</i>
1975	89.993	137.739	55.650	\$283.382
1974	87.047	132.646	41.481	261.174
1973	91.301	130.268	39.997	261.566
1972	95.555	129.285	40.353	265.193
1971	93.659	117.663	37.128	248.450

*Includes Water Fund deficit debt.

TOTAL ASSESSMENTS FOR METROPOLITAN DISTRICTS FOR 1974*

<i>Cities and Towns</i>	<i>Metropolitan Water</i>	<i>Metropolitan Parks and Boulevards</i>	<i>Metropolitan Sewerage System</i>	<i>Total</i>
Arlington	\$465,207.00	\$484,880.51	\$398,226.06	\$1,348,313.57
Ashland			42,187.68	42,187.68
Bedford			68,005.03	68,005.03
Belmont	206,063.20	333,404.18	190,745.14	730,212.52
Boston	10,510,396.80	3,248,601.00	5,297,777.16	19,056,774.96
Braintree		343,973.31	213,465.00	557,438.31
Brookline	541,768.60	619,856.84	352,418.65	1,514,044.09
Burlington			125,613.03	125,613.03
Cambridge	50,160.00	685,709.76	990,037.30	1,725,907.06
Canton	116,942.40	205,150.41	116,218.16	438,310.97
Chelsea	263,251.00	142,649.66	284,923.06	690,823.72
Cohasset		5,299.72		5,299.72
Dedham		325,915.99	216,206.57	542,122.56
Dover		76,152.77		76,152.77
Everett	580,877.80	484,171.18	342,275.38	1,407,324.36
Framingham			305,188.89	305,188.89
Hingham		198,886.92	52,193.53	251,080.45
Hull		72,324.23		72,324.23
Lexington	318,165.80		229,087.52	547,253.32
Lynn		663,451.75		663,451.75
Lynnfield Water District	24,326.20			24,326.20
Malden	547,437.80	349,349.88	421,566.23	1,318,353.91
Marblehead	149,907.80			149,907.80
Medford	610,345.80	448,410.87	544,871.78	1,603,628.45
Melrose	194,836.60	318,289.59	259,216.79	772,342.98
Milton	166,300.60	335,780.64	254,766.30	756,847.54
Nahant	39,573.00	38,068.81		77,641.81
Natick			185,267.54	185,267.54
Needham	67,289.60	403,969.29	207,294.73	678,553.62
Newton	885,372.40	855,129.88	747,509.97	2,488,012.25
Norwood	360,518.00		186,603.10	547,121.10
Peabody	57,390.00			57,390.00
Quincy	751,166.20	686,884.94	726,211.44	2,164,262.58
Randolph			152,065.86	152,065.86
Reading			111,134.47	111,134.47
Revere	256,387.60	295,888.47	262,883.68	815,159.75
Saugus	226,199.00	258,881.71		485,080.71
Somerville	795,003.80	487,830.75	622,510.15	1,905,344.70
Stoneham	243,369.00	189,687.81	146,952.31	580,009.12
Stoughton			109,462.94	109,462.94
Swampscott	106,951.20	64,639.92		171,591.12
Wakefield	174,618.00	249,012.34	165,894.75	589,525.09
Walpole			93,638.60	93,638.60
Waltham	857,582.60	673,672.22	377,350.97	1,908,605.79
Watertown	354,082.40	335,114.05	280,465.62	969,662.07
Wellesley		376,630.57	160,057.44	536,688.01
Weston	88,469.60	225,003.39		313,472.99
Westwood		172,020.94	84,531.47	256,552.41
Weymouth		494,852.53	336,584.87	831,437.40
Wilmington			86,335.98	86,335.98
Winchester	53,001.40	263,371.62	239,159.53	555,532.55
Winthrop	140,460.00	131,639.42	151,281.68	423,381.10
Woburn			310,266.52	310,266.52
	\$20,203,421.20	\$15,544,557.87	\$16,448,452.88	\$52,196,431.95

*Note: Assessments for 1974 were received in fiscal 1975.

DISTRICT MEMBERSHIP

	Water	Parks	Sewerage		Water	Parks	Sewerage
Arlington	x	x	x	Revere	x	x	x
Ashland			x	Saugus	x	x	
Belmont	x	x	x	Somerville	x	x	x
*Bedford			x	Stoneham	x	x	x
Boston	x	x	x	Stoughton			x
Braintree		x	x	Swampscott	x	x	
Brookline	x	x	x	Wakefield	x	x	x
Burlington			x	Walpole			x
Cambridge	x	x	x	Waltham	x	x	x
Canton	x	x	x	Watertown	x	x	x
Chelsea	x	x	x	**Wellesley	x	x	x
Cohasset		x		Weston	x	x	
Dedham		x	x	Westwood		x	x
Dover		x		Weymouth		x	x
Everett	x	x	x	Wilmington			x
Framingham			x	Winchester	x	x	x
Hingham		x	x	Winthrop	x	x	x
*Holbrook			x	**Woburn	x		x
Hull		x					
Lexington	x		x	Totals	<u>34</u>	<u>37</u>	<u>43</u>
Lynn		x					
Lynnfield Water Dist.	x						
Malden	x	x	x				
Marblehead	x						
Medford	x	x	x				
Melrose	x	x	x				
Milton	x	x	x				
Nahant	x	x					
Natick			x				
Needham	x	x	x				
Newton	x	x	x				
Norwood	x		x				
Peabody	x						
Quincy	x	x	x				
Randolph			x				
Reading			x				

(Beyond the Water District the MDC furnishes the entire water supply for Chicopee, South Hadley Fire District No. 1 and Wilbraham, a partial supply to Clinton, Framingham, Leominster, Marlboro, Northboro and Southboro and an emergency standby connection for Worcester.)

Membership

3 Districts	24
2 Districts	12
1 District	<u>18</u>
	54

*Bedford joined the Sewerage District in June, 1970, with sewage for part of the town handled through the town of Lexington under special contract. Holbrook became a member of Sewerage District in January, 1971, but is not contributing sewage to the system.




**Woburn was admitted to Water District in August, 1972, and Wellesley in March, 1974, but neither is being supplied pending completion of connections.

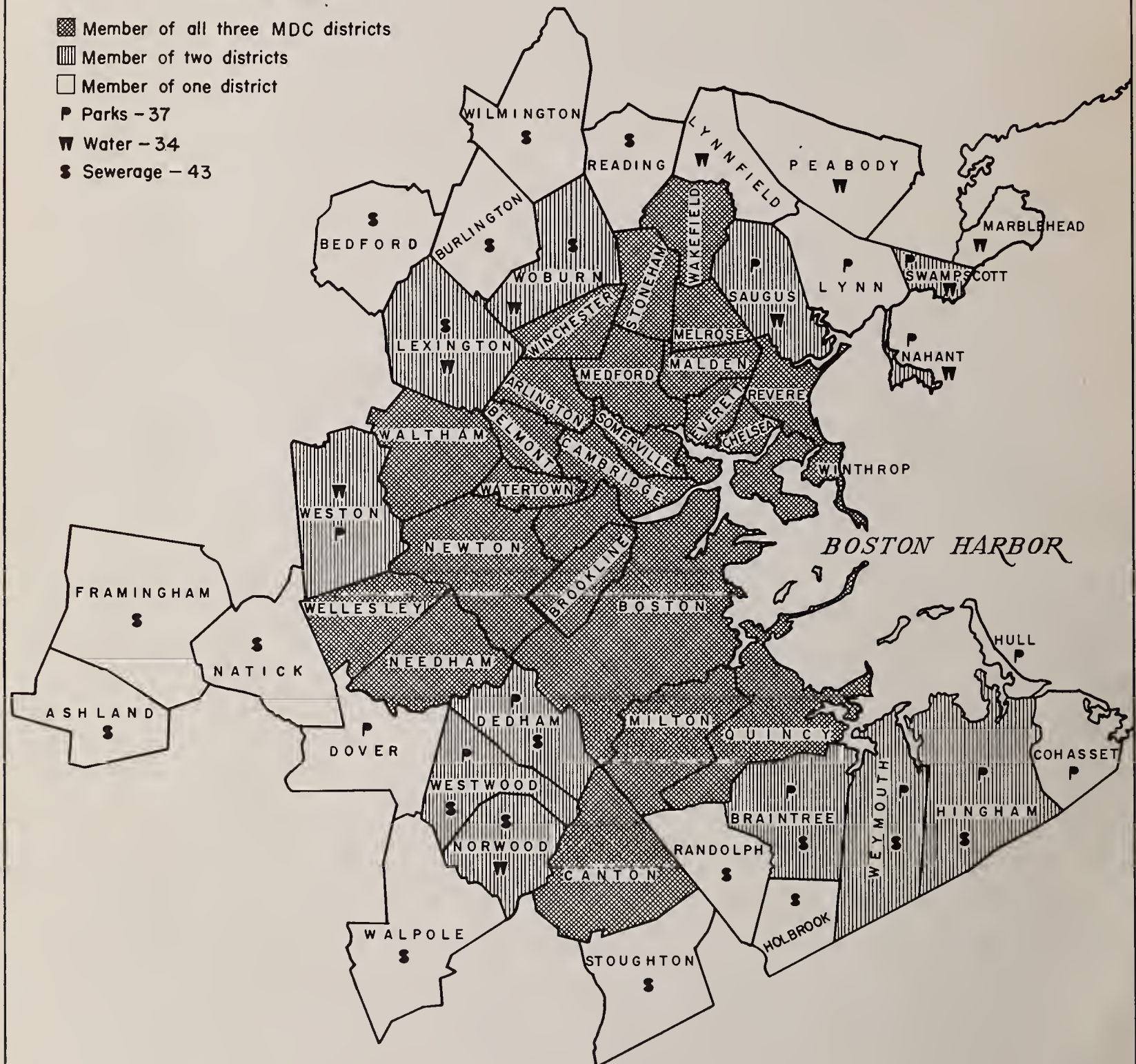
METROPOLITAN DISTRICT COMMISSION

District Membership

Parks - Water - Sewerage

Total Members - 54

-  Member of all three MDC districts
 Member of two districts
 Member of one district
P Parks – 37
W Water – 34
S Sewerage – 43



Note: Woburn and Wellesley are new members of the Water District but are not being supplied pending completion of connections.